The Cotton Gin and Oil Mill

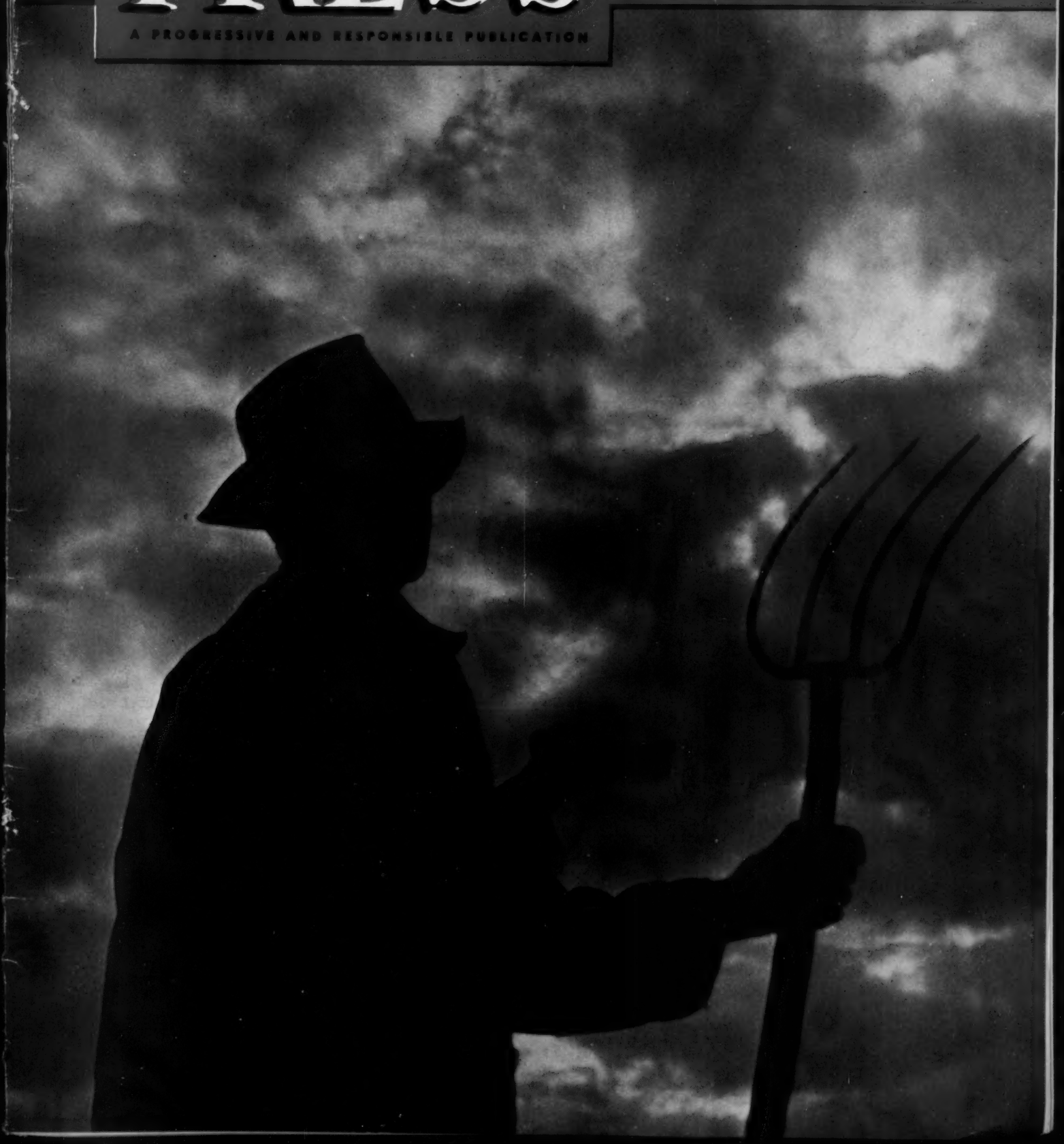
PRESS

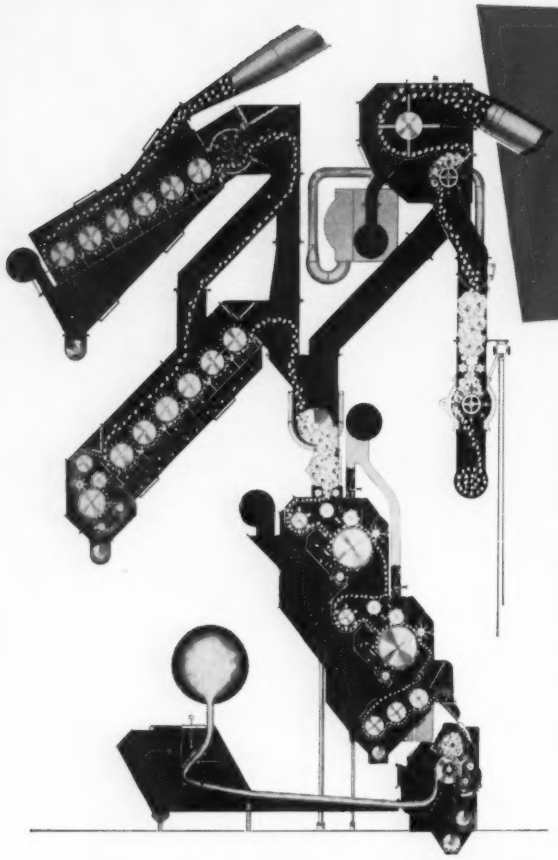
AUGUST 13, 1955

56th year

THE MAGAZINE OF THE COTTON GINNING AND OILSEED PROCESSING INDUSTRIES

A PROGRESSIVE AND RESPONSIBLE PUBLICATION





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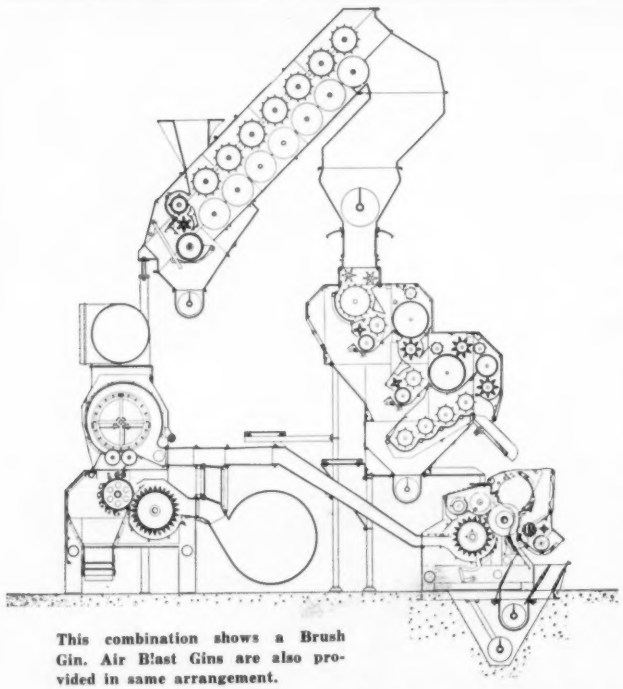

This combination shows a Brush Gin. Air Blast Gins are also provided in same arrangement.

Heart of the Modern Cotton Gin

This combination of machines is the heart of the modern Continental cotton gin plant. The design and arrangement, as shown, is fast becoming the accepted standard of ginners everywhere.

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For complete description write for Bulletin 220-A.

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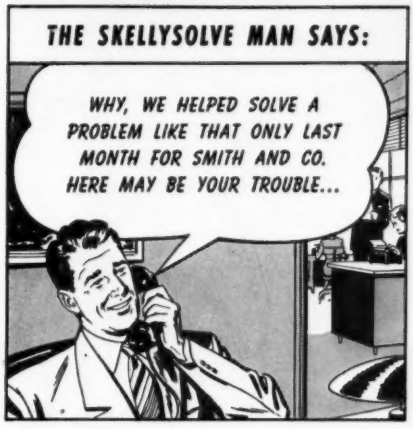
BOSS, I'LL CALL THE SKELLYSOLVE PEOPLE! THEY KNOW MORE ABOUT SOLVENTS THAN ANYONE I KNOW OF!



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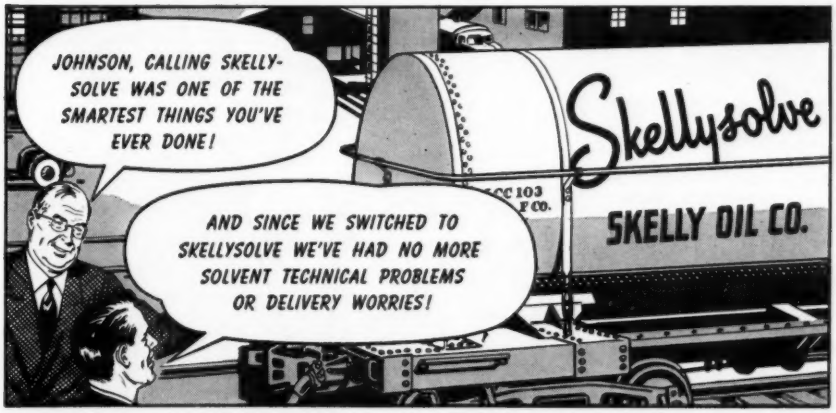
JOHNSON, CALLING SKELLYSOLVE WAS ONE OF THE SMARTEST THINGS YOU'VE EVER DONE!
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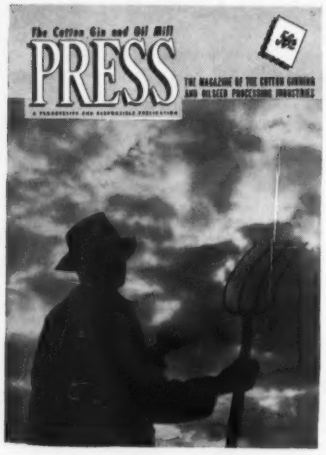

★ ON OUR COVER:

Prospects for getting in the rest of his hay crop don't look too good to the farmer silhouetted against the darkening sky in the scene on our cover. However, clouds and promise of rain are almost always welcome during the hot month of August to bring relief to people, even if they aren't so helpful, at the moment, to the crop. The photographer didn't tell us, but our guess would be that it didn't rain after all and the hay got in ricks without getting wet.

Photograph by A. Devaney, Inc.

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The Cotton Gin and Oil Mill PRESS...

READ BY COTTON GINNERS, COTTONSEED CRUSHERS AND OTHER OILSEED PROCESSORS FROM CALIFORNIA TO THE CAROLINAS

★ ★ ★

OFFICIAL MAGAZINE OF:

National Cottonseed Products Association

National Cotton Ginners' Association

Alabama Cotton Ginners' Association

Arizona Ginners' Association

Arkansas-Missouri Ginners' Association

California Cotton Ginners' Association

The Carolinas Ginners' Association

Georgia Cotton Ginners' Association

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Texas Cotton Ginners' Association

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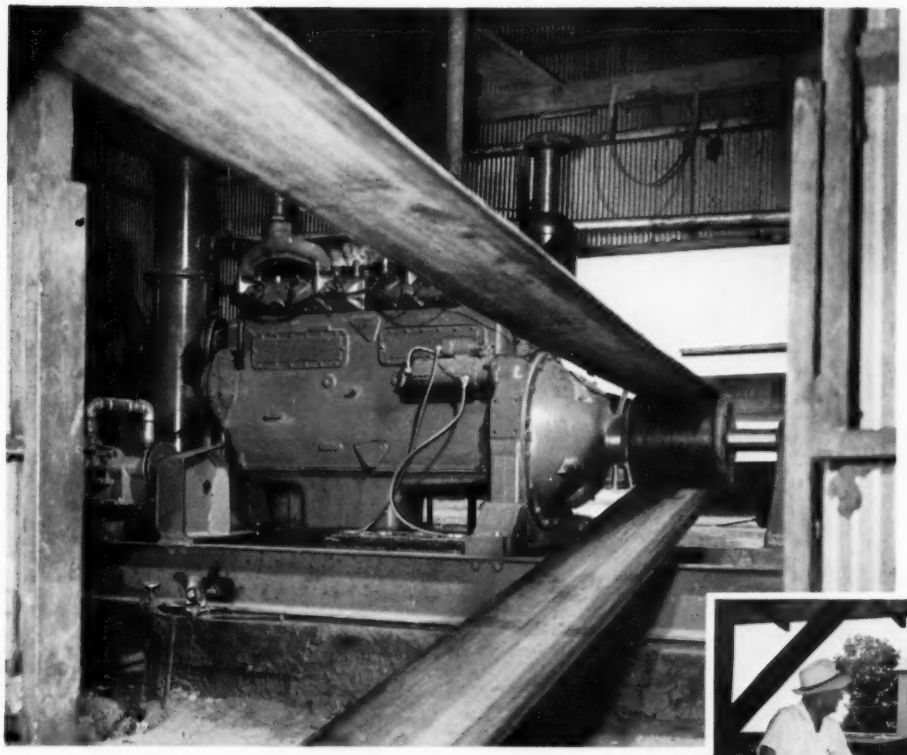
17-Year-Old IH Gin Engine Replaced by U-1091



RUNNING AT TWO-THIRDS THROTTLE, this INTERNATIONAL U-1091 natural gas burning engine powers the 4-70 gin stand, including 4,000,000 B.T.U. drier, impact cleaner and separators for L. L. Paxton.

FOR NEARLY TWO DECADES, L. L. Paxton, shown in foreground, powered this gin with a 100 hp. INTERNATIONAL PD-80 diesel, replaced it reluctantly when changeover in gin setup required additional power.

Mississippi gin owner adds equipment, puts 200 HP. U-1091 in place of old PD-80 diesel that ginned more than 60,000 bales

An ancient 17-year-old INTERNATIONAL PD-80 diesel engine finally had to be replaced in the L. L. Paxton cotton gin at Wilmot, Mississippi—not because it was worn out or not delivering peak performance, but because the owner needed more power to drive extra equipment added to gin machine-picked cotton.

Addition of an impact cleaner, a drier and an extra separator was too big a load for the old PD-80, but the new 200 HP. INTERNATIONAL U-1091 gin engine handles the load easily running at two-thirds throttle and holds ginning power costs to 70¢ per bale.

Gin owner Paxton handles approximately 3,000 bales during a 3½-month season with the U-1091—but the PD-80 remains a legend around the gin where it ginned more than 60,000 bales in 17 years.

If you've been pampering the power unit that drives your gin, check with your nearby INTERNATIONAL Industrial Power Unit Distributor or Dealer for the full facts on the savings you can make next season in production and operating costs with an INTERNATIONAL. He sells and services a complete line of 18 INTERNATIONAL diesel and carbureted gin engines—one exactly right for your power requirements. Call him today.

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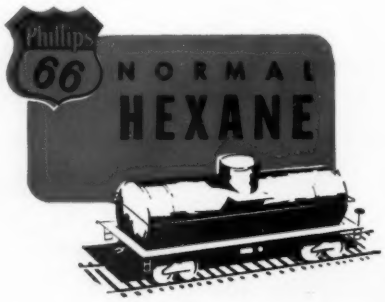
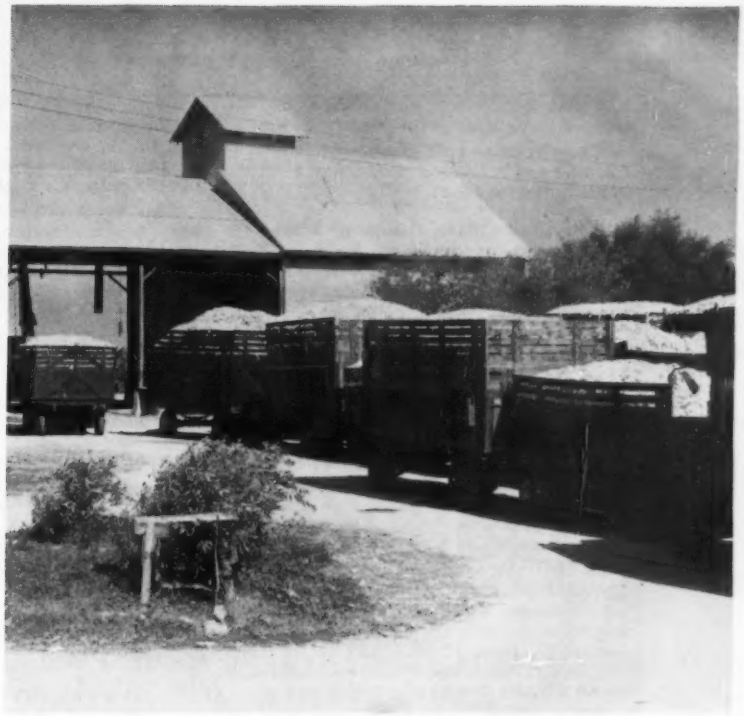


PHILLIPS PETROLEUM COMPANY • *Special Products Division* • **Bartlesville, Oklahoma**

Experience Proves Ginners And Producers Can

BREAK a Habit To MAKE Money For EVERYONE

Seed cotton grouping can help gins solve problems of overdrying or underdrying that have come with mechanical picking.



WHICH LOAD should be ginned first? Not necessarily the first one to arrive at the gin—and the accompanying article explains why it may be best to group cotton.

HABITS are hard to break. But most people can quit almost anything when they know it will put money in their own pocket to quit. That's why ginners and growers in many parts of the Cotton Belt are breaking a habit as old as ginning itself.

"First come, first served" is the old habit that these ginners and producers are discarding in order to make more money.

"Seed cotton grouping" is the plan that they're using instead. They've proved that seed cotton grouping makes sense where cotton is being harvested mechanically.

Ginners who have tried it are strong boosters for the idea. So are growers who have seen the plan work. So are manufacturers of gin machinery and of mechanical pickers. And so are authorities in research and extension activities; and the staff of the National Cotton Council, which is working in every way possible to improve cotton's quality and competitive position.

Every ginner should study the plan carefully and decide for himself whether to follow it and how to adapt it to his own individual conditions, these authorities believe.

The effort to encourage seed cotton grouping at gins is part of a broad program for better cotton harvesting and ginning this season. It is being promoted actively by Extension Services, ginners' associations, manufacturers of harvesting machinery, the National Cotton Council and others. Its purpose is to preserve the quality of cotton and markets for U.S. cotton.

As outlined in a publication of the Council, prepared in cooperation with the other organizations mentioned, here's the idea of seed cotton grouping:

• **Why Change the Habit?** — Since ginning began, it's been the practice to gin the loads of seed cotton in the order in which they got to the gin yard. That was fine when gins were simple and most seed cotton was relatively clean and dry. It's still all right under those conditions.

But, more and more mechanically harvested cotton is arriving at gins and more gins each year have new, better cleaning and drying equipment. This change has brought the need to change the habit. Seed cotton harvested by a spindle-picker usually has a substantially higher moisture and trash content than hand picked cotton; the two general types of seed cotton require different treatment; but with a modern gin turning out a bale every 6 to 10 minutes, there simply isn't time to make needed adjustments in machinery and drying temperatures to handle the different types of seed cotton properly.

This puts the ginner on a tough spot. Does he set his drying temperature **high enough** to do a proper job on damp, mechanically harvested cotton? **Low** enough to do the best job with clean, hand picked cotton? Or somewhere in **between**, so that he doesn't do the best job on either type of cotton?

• **The Farmer Loses** — Research at the USDA Cotton Ginning Laboratory has proved that any of these can be costly to the farmer.

The loss can be as much as $6.86 per bale on relatively dry, hand picked cotton if it is subjected to the amount of heat that is entirely proper for damp, mechanically picked cotton. Even though we assume a full grade increase due to overdrying (which only happens in about one out of three cases), this gain is far more than offet by the loss in staple and in bale weight. Also, since gins do not dump seed rolls after every bale, the hand picked cotton might be "plated," suffer downgrading to SLM, and lose an additional $8.42 in value.

On the other hand, it can be even more costly when mechanically picked cotton receives only the amount of heat that is correct for relatively dry, hand picked cotton. The loss on this can run more than $9.50 per bale, studies by the authorities show.

Underdrying leaves more moisture and trash in the bale, but the gain of about 23 pounds in weight is more than offset by loss of grade. There's also the danger of rough prep, which can run the grade down and the loss up to almost $24 per bale.

• **The Ginner Loses Too** — Improper drying also costs the ginner. When he applies too much heat to cotton, he raises his fuel costs, reduces the number of bales he can gin per hour, and may encounter press difficulties.

When he applies too little heat to damp cotton, he runs the danger of chokeups and poor samples.

Customers are unhappy in either case.

• **It Costs the Spinner** — Not only does improper drying penalize the farmer and the ginner, but also the man who converts cotton from a raw material into a finished product.

Overdrying causes mill losses because it reduces fiber length uniformity, ten-

Is It Really Fair?

Every ginner wants to be fair, to keep customers happy and to make money for them and himself. "First come, first served" has been the rule in ginning loads of seed cotton because it seemed the fair thing to do. But this article points out that another plan is better for many gins and their customers. Not every gin can or should follow this plan, but every ginner ought to study it. It may be the fair way to treat his customers. It may make more money for them, and for him.—EDITOR.

sile strength, yarn strength, and increases neps and manufacturing waste.

Underdrying also hurts length uniformity and increases waste, and reduces yarn appearance as well.

• **How Seed Cotton Grouping Works** — Seed cotton grouping is no hard and fast rule, no complicated plan. It simply amounts to the ginner and farmers getting together and agreeing on quitting the old "first come, first served." They then agree on a method for ginning hand picked and machine picked cotton, each at a certain time.

One ginner and his customers may decide to handle the hand picked cotton during the day, then gin machine picked cotton at night.

At another gin, it might be better to change from one type of cotton to the other every 20 or 30 bales.

In still other cases, the plan could be to establish definite schedules on an hourly basis. The morning from 8 to 12 might be devoted to machine picked cotton, while from 12 to 4 p.m. is the time set for ginning hand picked loads, and so on around the clock.

All of these plans have been used by ginners. The operators who've used the plan successfully emphasize that they're not advocating any set rule. It's a matter to be tailored to the needs of each gin.

• **Easier Than It Seems** — To the surprise of some ginners who've done it, breaking the habit of ginning loads of seed cotton as they arrive at the gin has proved fairly easy. Growers have learned that this sometimes gets their cotton ginned quicker, sometimes slower; but, on the average, they get service just as fast as they did when the rule was "First come, first served."

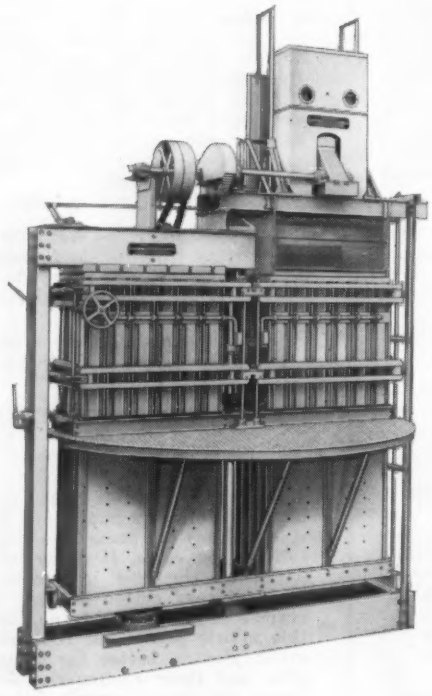
"All my growers have reacted favorably to this system," comments M. L. Becking, manager of the Union Avenue Gin of Coberly-West Co. at Bakersfield, Calif. "They like it. We have had no complaints. However, we do use caution in trying to keep a suitable balance between the number of loads of each type cotton that we run through at a time."

USDA's Cotton Ginning Laboratory at Stoneville, Miss., has the following comments about the idea: "Extreme variations in cotton coming to the gin require changes in drying air temperature which cannot quickly be made because of a heat 'buildup' in cleaners and extractors operated behind driers for considerable periods of time. Therefore, seed cotton should be . . . grouped on the gin yard into lines or sections of like bales to enable the ginner to make adjustments in the machinery and in the drying temperatures for handling each section properly."

• **Give It A Chance** — As mentioned before, no one expects this idea to work for every ginner, everywhere. But those who've seen it used urge ginners to give it lots of thought—to try to figure out a plan that will work at their own gin if they've had problems in handling mechanically harvested cotton—to talk it over with their customers—to give it a chance to make more money for everyone by improving the quality of cotton.

Mays Heads Laboratories

J. R. MAYS, JR., Memphis, was elected president and treasurer of Barrow-Agee Laboratories at a meeting of the board of directors on Aug. 1. Formerly executive vice-president and treasurer, he succeeds the late G. Worthen Agee. Other officers and directors elected are: E. F. Harder, vice-president; G. L. Weaver, vice-president-secretary; Mrs. Evelyn T. Agee, assistant secretary; E. R. Barrow, consultant; and Troy Beatty, Jr., First National Bank trust officer, and David N. Harsh, attorney, directors.



EVERY GIN SHOULD HAVE A
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Write for Bulletin 49-P

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THE DIMES THAT BUY THE MOST

By W. T. WYNN

A small investment gives ginners help they need to meet competition.

THE COTTON ginner of 1955 feels the hard pressure of competition as never before.

Especially at this time, as the next crop moves to the gin on the first leg of its long journey to the market places of the world, the ginner is reminded that:

(1) He must compete with other gins for a volume of business big enough to make his own operation successful;

(2) He must also compete with the makers of a vast array of new fiber, paper, and plastic products that are pushing into cotton's markets to the extent of over six million bales a year.

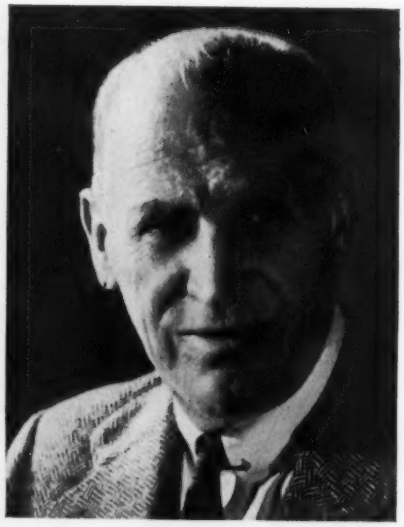
• **Ginner Needs Help** — The ginner knows the first type of competition is strictly an individual problem—one that he must solve by himself. The second kind of competition, on the other hand, is something he knows he can't solve by himself. That kind of competion is a problem of the whole cotton industry and can be met only by bold, cooperative action on the part of all those dependent on cotton for a livelihood.

It was precisely because of the need for such bold, cooperative action that the National Cotton Council was founded in 1939. And it is precisely this same need today—now far more urgent — that makes it so necessary for the cotton ginner, together with his colleagues in the other five basic branches of the industry, to put his full weight behind the Council's drive to increase the consumption of cotton and cottonseed and thus protect and expand our industry's markets.

The National Cotton Council, as the central, representative organization of the entire raw cotton industry, has been able to serve as the focal point of harmony, cooperation and industrywide support to such an extent that we can face the future with every confidence.

The Council was organized in 1939 with the objective of increasing consumption of cotton, cottonseed and their products. It has been, and is, the only organization dedicated solely to that purpose. Domestic consumption of cotton has been increased from six to nine million bales annually during a period when synthetics and other competitors have been making an all out bid for markets. Despite this rivalry, moreover, cotton still retains 70 percent of the entire textile market in the U.S.

It is worth emphasizing how this achievement—unparalleled in history—was brought about. Spearheaded by the Council, with its singleness of purpose, it was done essentially in four ways: First, by selling more cotton and cottonseed products through advertising and promotion; second, by improving the quality of those products; third, by stepping up the efficiency of cotton production through the most up-to-date farming methods; and fourth, by focusing public attention on cotton's problems and the importance of the cotton enterprise to the nation's welfare.



W. T. WYNN, Greenville, Miss., is president of the National Cotton Council and served as treasurer from 1939 through 1954.

• **Paid Off Where It Counts Most**—This four-way approach has paid off where it counts the most—at the retail counter level.

To be sure, there have been losses, notably in industrial uses. In fact, cotton's share of industrial markets has fallen off about a million bales since 1947. And there are signs that the end is not yet in sight.

However—and this is the significant thing—there have been such striking gains in household and apparel markets that the losses have more than been counterbalanced.

For example, during that same period since 1947, cotton's share of apparel markets rose from 2.7 million bales a year to 3.4 million bales. In household items it climbed from 2.5 million bales to 2.7 million. The biggest increases have been in children's and infants' wear—a 200,000-bale gain; and in women's apparel—a 286,000-bale boost. And this fact should be kept in mind—quality improvement programs and selling campaigns, stimulated by the Cotton Council, have been aimed at these very same markets.

What it really amounts to is this: The average cotton fiber of today is of better quality than it used to be, and cotton products are better processed, better finished, and better styled. At the same time, cotton's superior quality has been forcefully brought to the consumer's attention so that cotton now enjoys greater popularity than ever before. In other words, research and promotion are largely responsible for the upsurge of cotton during the very time when cotton's rivals have been going all-out to gain textile supremacy for themselves.

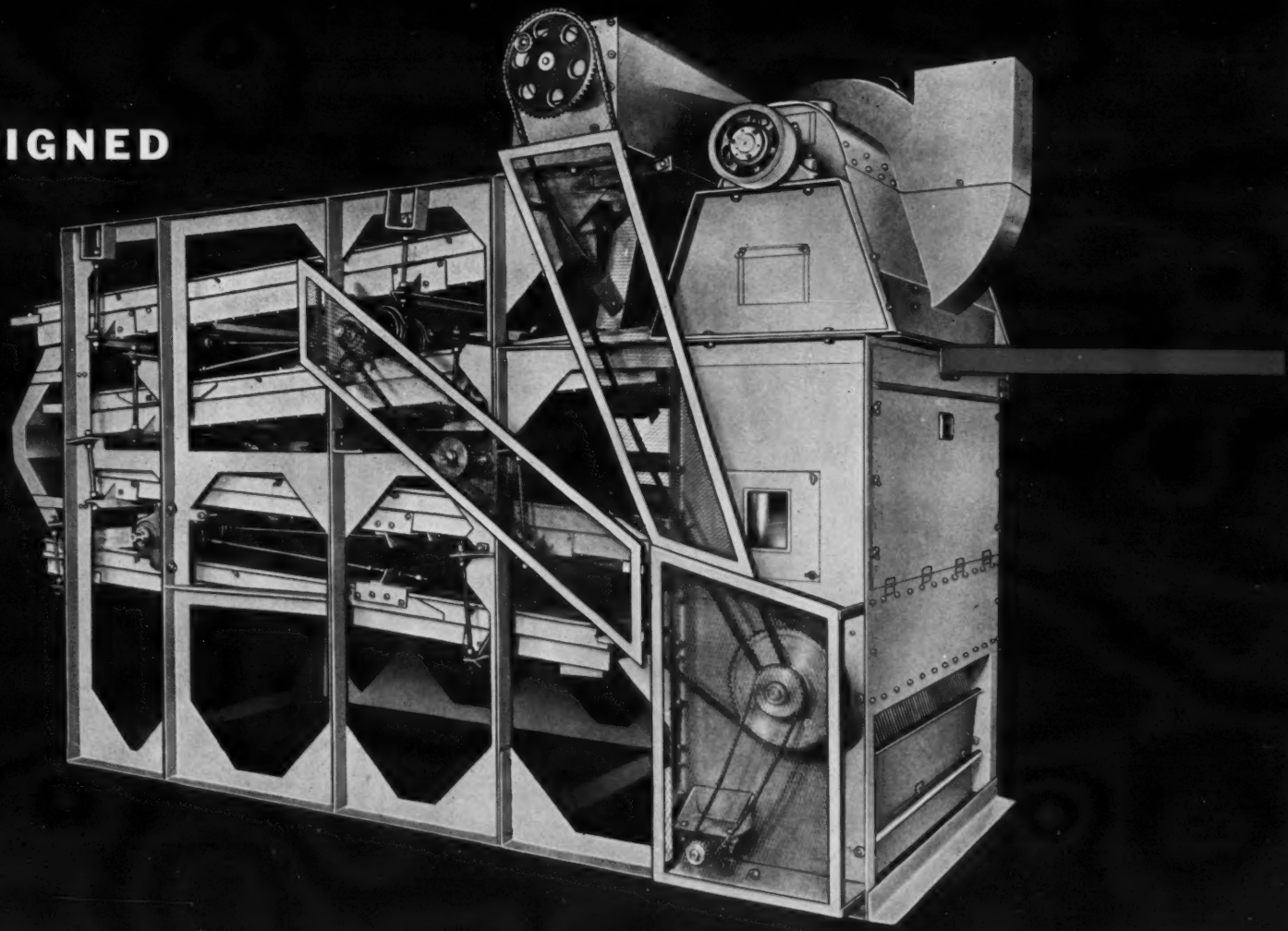
• **Competitors Spend More** — If even further proof is needed that the Council's research and promotional zeal has paid off, it can readily be found in the fact that cotton's competitiors contribute many times the 10 cents per bale that cotton producers remit through the ginner for the Council's support; or the proportionate amounts contributed to the Council by the other segments of the cotton industry.

The rayon industry, for example, recently formed an organization patterned after the Council with an initial budget more than twice as large as cotton's. This money, moreover, was pledged by only eight firms which openly admit their action was made necessary by the success of the National Cotton Council. As a matter of fact, in the field of research and promotion alone, it is estimated that the producers of all synthetic fibers spend in excess of $60 million a year.

• **Every Dime Needed** — That can mean only one thing: The full support of the Council is needed now more than ever. The Council's great record of progress to date has been achieved with approximately 70 percent financial support from the industry. That's a very high percentage. But with the enormous challenge facing us, the raw cotton industry should be in the Cotton Council 100 percent.

Only in that way can the Council ful-

Bauer **DESIGNED**



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During all these years, our engineers have studied situations in scores of plants to discover how we could improve operating efficiency and reduce users' costs. The result is an integrated line of machines recognized everywhere for their outstanding performance.

Our equipment includes pre-cleaner screens, shakers, seed cleaners, linters, knife and disc type hullers, separator-purifiers, hull beaters, cake breakers, hull defibrators, meal grinders of the attrition and impact types, feed grinders, magnetic separators, and related equipment. Ask us for information on any of these items.

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ly utilize its positive and effective measures to capture markets.

Each dime that is contributed is a small amount in itself—a tiny fraction of one percent of the value of a bale—but each dime is a vital and integral part of the program to expand cotton consumption; each dime brings dollars worth of returns.

We have truly made great progress. And we are more sure now than ever that cotton's opportunities are virtually without limit. In fact, in a very real sense, cotton is on the threshold of a dynamic future. We have a superb product. And we know how to sell that product.

Cotton's future, however, is only as big as its people. Its destiny is in their hands. The challenges it faces today, more than ever before, demand the unity, singleness of purpose, unselfish cooperation, and dedication of effort that have achieved for our Council an unparalleled measure of success. Cotton's program of research and promotion demands the continuing, unswerving support of each and every one of us.

50,000 More Braceros Will Come to U.S. in August

Fifty thousand Mexican laborers will come to the U.S. during August and 148,658 braceros had already entered this country by the end of July, the Mexican government reports. It is estimated that U.S. farmers will import a total of 350,000 men this year.

Peanut Programs Analyzed

"Peanut Price and Support Programs" is the title of a new publication issued by Georgia Experiment Station, Tifton. N.M. Penny, J. C. Purcell and J. C. Elrod are the authors.

Present peanut programs are analyzed and alternative measures are discussed.

Ginning and Harvesting Problems Discussed

Problems of ginning and mechanical cotton harvesting have been discussed at three meetings sponsored by Mississippi Delta Council and Extension Service. Meetings were held Aug. 10 in Greenwood, Aug. 11 in Clarksdale and Aug. 12 in Greenville.

Authorities on the programs included representatives of mechanical picker manufacturers and the following: O. B. Wooten, Jr., Floyd Fulgham and Buford Williamson, agricultural engineers at the Delta Branch Experiment Station; Dr. Harry Carns, plant physiologist, Delta Station; C. M. Merkel, engineer in charge, USDA Cotton Ginning Laboratory; Vernon P. Moore, assistant in charge, USDA Ginning Laboratory; J. C. Oglesbee, Jr., USDA extension agricultural engineer, cotton, Atlanta; and Tom J. Johnston, Extension cotton gin specialist, Stoneville.

Slight Rise in Margarine Volume for Six Months

Margarine production for the first six months of 1955 was 692,060,000 pounds, S. F. Riepma, president, National Association of Margarine Manufacturers, reports. This is a little over one percent more than in the first six months of 1954.

June production of margarine was 105,024,000 pounds, compared to 90,334,000 pounds for June, 1954, an increase of about 17 percent.

Creamery butter production in the U.S. is estimated to have been 152,915,000 pounds during June. This was 5 percent below June a year ago. Creamery butter production for the first six months of this year is estimated to have totalled 623,700,000 pounds compared to 703,600,000 pounds for the comparable period in 1954.

• $120,000 Gin Fire Was Preventable

A $120,000 fire that could have been prevented if a nightwatchman had known where to find a hose, only 30 feet away, is cited by the National Cotton Council as an example of what can happen when gin crews are not trained to fight fires.

Gin managers are urged by the Council to start early to brief each employee in the location and use of fire fighting equipment.

In the gin fire cited as a case history, the watchman was new on the job and couldn't find the hose that was nearby and ready for use. Flames had caused less than $25 damage when discovered and could easily have been extinguished by the hose.

These simple reminders are suggested by the Council in its effort to reduce losses which cost ginners millions of dollars yearly:

1. Before ginning a single bale, check all extinguishers, water hose and other equipment.
2. Be sure they are in convenient, easy-to-reach locations.
3. Make certain that all equipment used for any blaze, large or small, is thoroughly checked and readied for use again.
4. Instruct all personnel in use and location of equipment.

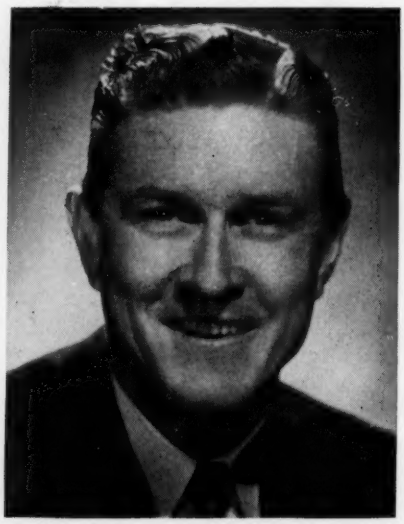
Kuehner's Third Son Ties Record Set by Moloney

Robert L. Kuehner, administrative assistant in the Memphis office of National Cottonseed Products Association, is receiving congratulations upon the arrival of his third son on July 28.

Having boys is a habit in the NCPA Memphis office as John F. Moloney, secretary-treasurer, and his wife have three sons: Richard, Robert and Walter.

GEORGE K. DAHLIN

CECIL BAYS



F. GORDON NICHOL

Fats and Oil Brokers' Association Renames Officers

OFFICERS of the National Fats and Oils Brokers' Association, shown here, have been re-elected as a result of their successful program for the organization during the past year. Officers are George K. Dahlin, Roesling, Monroe & Co., Chicago, president; Cecil Bays, Cecil Bays & Co., Los Angeles, vice-president; and F. Gordon Nichol, Lacy-Logan Co., Dallas, secretary-treasurer. The Association held its annual meeting in New Orleans and was host at a reception for oilseed processors attended by approximately 450 oilmillers and other guests.

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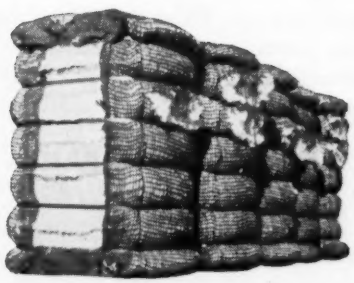
...the ginner's favorite



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From Carolina to California, DIXISTEEL Cotton Ties are a favorite with ginners because they're tough and strong, yet they're easy to work and have no sharp edges to cut gloves and hands.

A product of over half a century of skill and experience, DIXISTEEL Cotton Ties are made from our own special-analysis steel, rolled to uniform thickness, width and finish.

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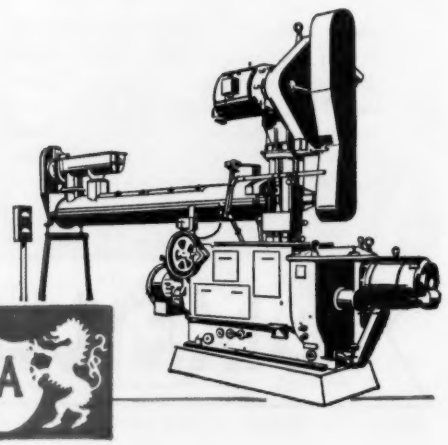

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ONLY ANDERSON MAKES EXPELLERS*

from our Washington Bureau

by FRED BAILEY
WASHINGTON REPRESENTATIVE
The COTTON GIN and OIL MILL PRESS

• **Bungled On Cotton** — Washington bungling is the only reasonable explanation for the muddled situation in which the entire U.S. and world cotton industry is being kept. It is impossible now to estimate how much this has, or will, cost American cotton growers.

Greatly simplified, here is what has happened so far. Several months ago Secretary of Agriculture Benson said that a cotton export policy for the 1955-56 season beginning Aug. 1 would be announced prior to that date. He hinted strongly that an export subsidy program was being considered.

Benson set up an Export Advisory Committee to "advise" him on cotton export policies. That Committee met for the first time last spring, expecting to consider recommendations by USDA. Benson, however, insisted that the Committee take the initiative in making recommendations.

Obviously, Benson had in mind a direct export subsidy payment program. It became apparent, however, that opposition to that was too strong, both from a sizeable portion of the trade and, more emphatically, from other government agencies led by the State Department.

Benson then sought a go-ahead signal that would permit him to offer CCC stocks of cotton abroad at "competitive world prices." The State Department turned thumbs down on that, and the deadlock was tossed into the lap of the President. Eisenhower referred the matter to the Dodge Committee, a group headed by the former Budget director, to advise him on foreign economic policies.

That Committee upheld the contention of the State Department that such a course would constitute "dumping" and as such would be resented by friendly foreign nations. The President accepted that argument and effectively blocked Benson.

• **Benson Frustrated**—A frustrated Agriculture Secretary thus was forced to announce on July 31 that sales prices on surplus cotton for export would remain unchanged "through August." Benson through that announcement, while not openly defying the White House, was giving notice that he was neither accepting the President's word as final nor giving up on some price device to boost exports.

The announcement, while not closing the door to the possibility of a cut-rate sales program, does make a subsidy program extremely doubtful. Benson still is searching for some "device" that would boost cotton exports, and he is not giving up entirely on the subsidy idea.

Cotton states congressmen have been pushing Benson for a stronger export program. A large delegation of Senators and Representatives, before leaving Washington, called on the President and urged him to start selling surplus cotton abroad at world market prices. The group was led by influential Senator Walter F. George of Georgia. The President is reported to have made no commitment other than a promise to study the situation and "do all possible."

The congressmen backed up their personal appeal with a bill in the Senate to direct the government to sell cotton abroad at competitive world prices and to impose import restrictions on finished cloth. It was, of course, too late in the session to hold hearings. Another bill introduced by Senator James Eastland of Mississippi would permit CCC to sell surplus cotton on the domestic market at competitive prices.

The law limits the sale price of CCC cotton to not less than 105 percent of the support rate, plus carrying charges, on the domestic market. That limitation does not apply to export sales.

The bill to direct sales of CCC cotton at competitive world prices was signed by 63 Senators, and was presented on the floor by Senator Strom Thurmond of South Carolina, with an accompanying statement.

That statement pointed out that the U.S. share of the world cotton market has dropped from 60 percent to less than 30 percent; that a cut in acreage from over 25 million in 1953 to 17 million this year has forced 55,000 cotton farmers out of business and reduced the income of 130,000 others by $100 or more each.

Thurmond said the provision limiting imports of finished goods would adequately protect the U.S. market for spinners, which, he said, already is "endangered by the foreign trade policies and action of the U.S. government."

Those policies—or lack of policy—already have seriously curtailed cotton exports. Ever since Benson hinted at a export subsidy program the foreign market has been buying only from hand to mouth. Continued uncertainty does not appear likely to improve that situation.

On Jan. 31, at the close of the first six months of the cotton year just ended, U.S. sales abroad were running 435,000 bales ahead of the same period of last season. It seemed reasonable to hope that the goal of 4,500,000 bales exported might be approached, if not reached.

By the end of May, following the Benson hint of subsidies, all but 9,000 bales of that gain over the previous season had been lost. The export total was 3,106,800, compared with 3,098,200 bales in the first 10 months of the 1953-54 season.

For the full 1953-54 season exports amounted to 3,761,000 bales. Still unofficial figures now place exports for the full 1954-55 season at 3,500,000 bales, a full million bales under earlier expectations. How much of that million bale loss was attributable to the Benson announcement cannot be determined.

USDA estimates the carryover of cotton on Aug. 1 at "more than 11 million bales," largest in 10 years and 2,300,000 bales more than a year earlier. Something over eight million bales of that carryover is held by CCC. Expectations are that this will increase to about 10 million bales by the time the 1955 crop is sold, or placed under loan.

• **Seek More Exports**—In this situation the pressure is terrific on Benson to sell more cotton abroad. That, however, does not look like a reasonable goal so long as present White House and State Department policies prevail. Despite this, however, USDA last week expressed confidence that some increase over the past year can be expected in the current sesaon.

One way of accomplishing this, Gwynn

(Continued on Page 45)

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A Paramount Question, "WHO GETS WATER?" Now Faced by Nation

■ WE have reached a point in our economic development at which we must recognize that water is life itself, USDA leader says, stressing need for cooperation by federal and state agencies and private industry to solve problems.

WE HAVE REACHED the point in our development as a nation where a paramount question is "Who is to have water and how much?", USDA Assistant Secretary Erwin L. Peterson recently told a U.S. Chamber of Commerce committee.

"The forces of economic competition are at work on our water supplies," he added. "We are beginning to recognize that water is life itself, both physical and economic."

Some of the questions faced in the U.S. today, the speaker said, are:

How much water is needed by industry to provide the goods, materials and services wanted and used by our people?

How much water is needed by our cities and towns to fully satisfy their inhabitants?

How much water is required by our farmers and ranchers to supply the foods, fibers and materials for industrial use needed by our population?

How much will these needs be expanded by the rapid growth in our population, now estimated to exceed 210 million people by 1975?

How will our water supplies be divided up between industrial, domestic, and agricultural uses? Who will make the allocations? On what basis will the allocations be made?

What can be done to meet the increasing demands for water? Who is responsible for doing it? How will the costs of water developments be shared among the immediate users and the government? What government—federal—state—or local—and under what conditions, is to be responsible for seeing that needs are met and that allocations between users of water itself and of its costs are fair and reasonable?

What is the role of private enterprise in these problems, and how will it be affected?

"These are questions before us now," Peterson told the Group. "How we answer them may shape the course of our future as a nation. The kind of answers we use is everyone's concern. Fortunately we have a considerable experience to assist us in charting our future course. Thus far, however, our efforts have been only incidentally coordinated."

• **Need Nationwide Policy** — The USDA representative said that what is needed now is a nationwide water and natural resources policy, within the framework of which private risk capital, local and state governments and the federal government can all work in harmony.

"There must also be recognition of the fact that ours is a union of sovereign states which have reserved to themselves all powers not delegated in our constitution to the federal government," he emphasized. "The states have both right and opportunity to exercise that power. But right and opportunity also require responsibility. There is increasing evidence that the states now recognize the fact that when they do not act in areas of recognized public need there is great temptation for federal action to fill the vacuum.

"The states to which the Reclamation Act applies have legislation regulating the appropriation and use of water. Some are finding that the needs for water for an expanding population, growing industry, and an increasing need for water by agriculture are creating conflicts which existing statutes are incapable of resolving.

"Similar conflicts brought to focus by a rapid increase of interest in agricultural irrigation throughout the Eastern part of our country are bringing the question of water legislation to public attention in this area also. I understand South Carolina, Michigan, New York, Pennsylvania, and other states have active legislative committees working on legislation to provide means for establishing water rights and methods for their adjudication.

"All federal activity and any nationwide water policy must honor fully the right of any user, or appropriator of water acquired under state law. It must also recognize the authority of the states to control and regulate the use, appropriation and distribution of water within their geographic boundaries. It must also provide the framework within which the states can resolve conflicts arising between themselves for the use of water."

• **Involves Soil Management** — Water use problems are inseparable from those in the management of soil, forests and other natural resources, Peterson pointed out.

To illustrate, he cited a North Carolina study which showed the cost of filtering mud out of municipal water to be $27 per million gallons when the water originated on eroded watersheds. In contrast, mud could be filtered for $8.50 per million gallons of water when it came from well-protected forest lands.

The need for controlling and cleaning the nation's rivers to provide more even flows for water users also was mentioned as important.

The Mississippi, he said, varies in flow from one-sixth its average annual flow to about four times average; the Rio Grande from one-thousandth to 33 times the average; the Gila from one-thousandth to 278 times average.

• **Competition for Water** — Stressing that agriculture is competing for water with other users, Peterson said that agriculture's representatives need to understand, evaluate and relate agricultural interests to the total interest in water, its development, management and use.

He called attention to estimates that population will be about 178 million by 1960 and that by 1975 the U.S. population is expected to reach 210 to 220 million.

In addition, the expectation that we shall retain and add to our foreign markets for our agricultural products should be taken into consideration.

"Over three decades ago we reached a crop land base of approximately 350 million acres," he said. "That base has never been significantly exceeded, nor is it likely to be in the near future. As new land has been brought to production,

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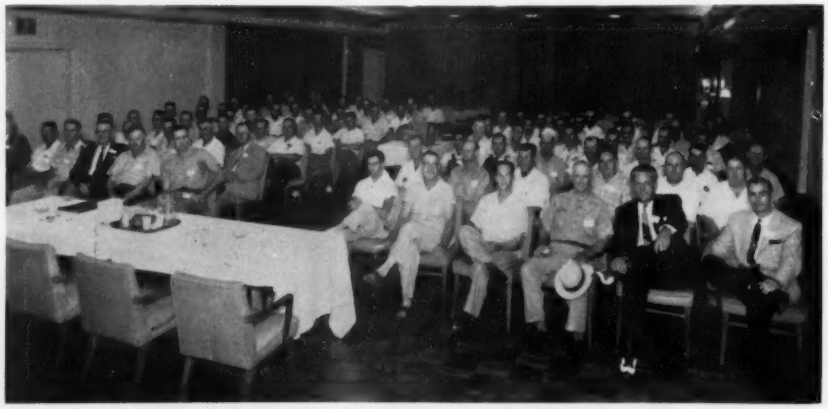

Moss-Gordin Holds Memphis School

SHOWN is the group attending the gin operators' school held by the Moss-Gordin Lint Cleaner Co. in Memphis on Aug. 5. More than 100 were at the one-day meeting, held at Holiday Inn Motel. Herschel McRae, Memphis, National Cotton Council; Vernon Moore, Stoneville, Miss., U.S. Ginning Laboratory; and Tom Johnston, Stoneville, Mississippi Extension ginning specialist, spoke. The operators' attending saw demonstrations of the equipment and heard explanations of proper use made by officers and factory representatives of the firm. A school was held Aug. 4 for colored operators.

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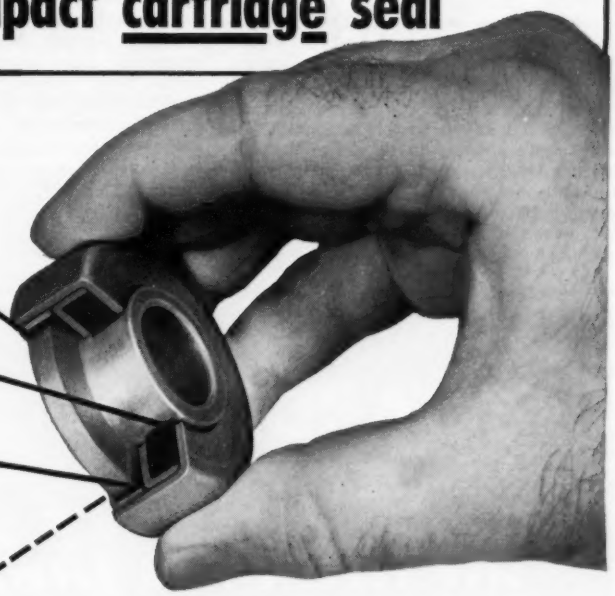
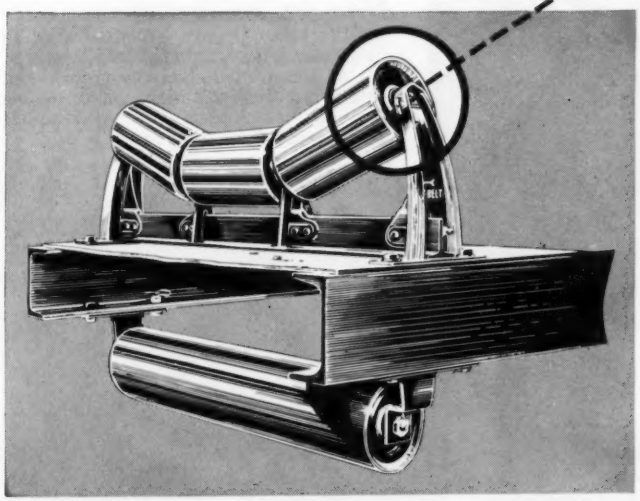


1. Labyrinth seal
2. Contact seal
3. Clearances Grease Filled



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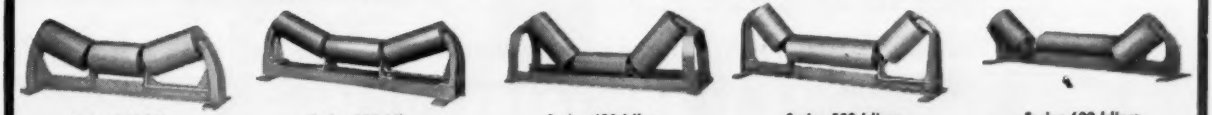

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• Real Choice on Crop Controls Is Needed

PRODUCERS should have a realistic choice when they vote on marketing quotas for crops, Charles B. Shuman, American Farm Bureau Federation president, said recently. "The present law is largely designed to encourage producers to vote for quotas," he pointed out.

"One way to give farmers a real choice would be to let them choose between different levels of price support together with the production controls appropriate to each level. This means a choice between a lower minimum support level with the right to grow more, on the one hand, and a higher support level with tight acreage controls, on the other hand," he asserted.

The AFBF president also declared that present control programs are producing some bad results from the standpoint of building and expanding markets, failing to give proper recognition to quality.

"With acreage reductions applied straight across the board, there is a relatively tight supply of the types of cotton most wanted by the mills. This is due in part to the lack of realistic quality differentials in the loan program.

"It is quite apparent what this is doing to the cotton producer in the Mississippi Delta. He is being forced to reduce production so that producers in some other areas can stay in the business of producing less desirable cotton for the government," Shuman reported.

The AFBF leader said there was reason for concern among cotton producers in view of current conditions.

"Cotton exports have fallen below early season forecasts," he said. "And there is some reason to believe that the reduction in exports is in part due to public controversy over what the U.S. export price on cotton should be. Foreigners were advised that the U.S. might subsidize cotton exports when actually no such decision had been made. This led them to expect lower cotton prices in the future and discouraged forward buying."

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West German Oil Imports Show Increase in 1954

West Germany is becoming increasingly dependent upon import sources for fats and oils, USDA reports. In 1954, about 57 percent of the 1,378,000 tons (pure fat equivalent) of edible fats and oils consumed came from foreign sources. This compared with 54 percent of 1,306,000 tons in 1953.

Western Germany last year used 277,000 tons of industrial fats and oils, 95 percent imported. In 1953, 92 percent of the 248,000 tons consumed came from outside the country.

Lummus Representative Dies in California

Otho (Ike) Lyerly, Fresno, Calif., who had been with Lummus Cotton Gin Co. for 37 years, died suddenly from a heart attack on July 20 while on a business trip to Los Angeles. Funeral services and burial were at Fresno.

OTHO LYERLY

He is survived by his wife in Fresno, and a sister, Mrs. T. T. George of Dallas.

A native of Ennis, Texas, Lyerly worked for the Texas and Pacific Railroad until 1918, when he began work with the Lummus Cotton Gin Sales Co. He was secretary-treasurer of the sales company in 1934, before he was transferred to California in 1935 in a sales capacity. He had represented Lummus Cotton Gin Co. in California and Arizona since that time and had many friends throughout the industry who extend sympathy to his family.

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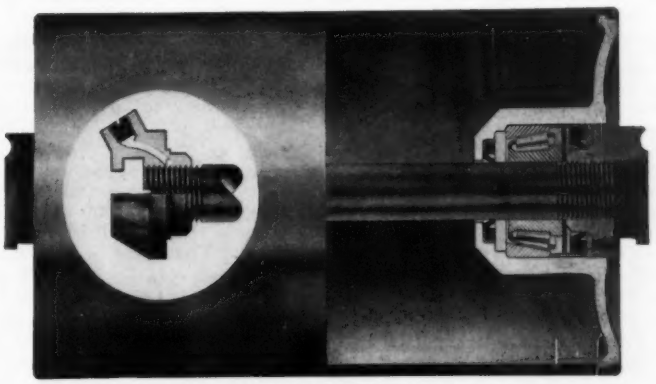
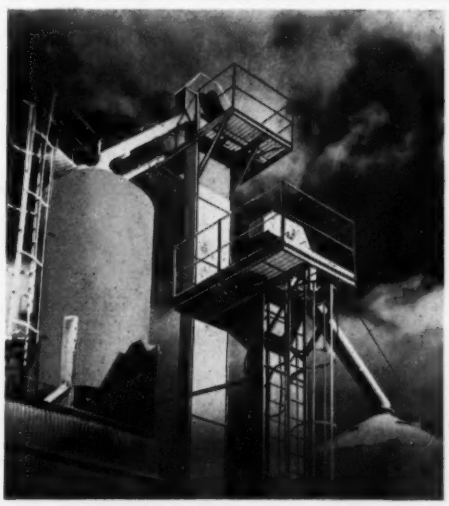
- Gears and Reducers
- Conveyor Belts
- Power Transmission Equipment

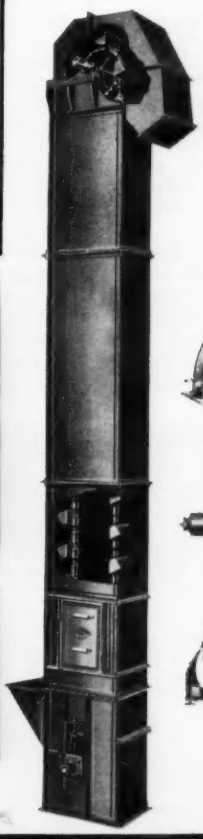


TYPE "UST" STANDARD IDLERS

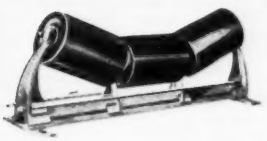
Continental's Unit-Sealed "UST" Conveyor Idlers are pre-lubricated for longer life and minimum maintenance. Incorporating Timken Bearings and Garlock Klozures this construction permits operating the Continental "UST" Idler without lubrication for 1-2-3 years or more depending on the severity or character of conditions. Write for bulletin SI-116.



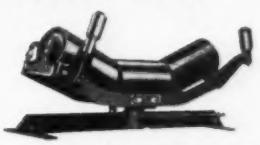
CENTRIFUGAL • CONTINUOUS
SUPER CAPACITY



STANDARD AND HEAVY DUTY



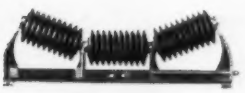
Standard Troughing Idlers



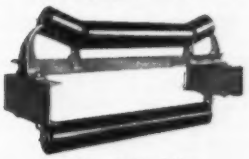
Self-Aligning Troughing Idlers

Space Disc Idlers

Self-Aligning Return Idlers



Impact Idlers



Picking Table Idler

For Additional Data on Bucket Elevators
Write for Cat. SI-521. CG-5405

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
BIRMINGHAM, ALABAMA
ENGINEERS CGC ATLANTA • DALLAS • MEMPHIS • KNOXVILLE CGC MANUFACTURERS
NEW YORK CITY

As Grower, Ginner, Crusher

Pendleton Has Made Many Friends and Fine Record

■ NOW district gin manager for Western Cottonoil Co., he began working with cotton as a youth on his father's farm; and has been associated with the industry for about 50 years.

HOMER A. PENDLETON, better known as "Hap" to friends in the ginning and crushing industries in the Southwest, was the subject of a feature article in a recent issue of The Paymaster, published at Abilene, Texas, by employees of Western Cottonoil Co. The publication selected Pendleton as its "man of the month."

Pendleton is district manager of gins for Western Cottonoil Co. at Munday. His brother, the late W. F. Pendleton of Dallas, was a leader in the crushing industry; and his nephew, A. M. Pendleton of Dallas, is USDA Extension agricultural engineer for cotton.

The Paymaster article says that Pendleton was born May 6, 1888, at Farmersville, Texas, and continues:

"It was a town of about 2,000 then," Hap says, "and I don't think it's lost one or gained two since. I have two sisters there now."

His education through high school took place in Farmersville, followed by a year at Allen Academy, at Bryan, Texas. He finished up his college training at Texas A. & M.

• **Worked on Farm** — During the summers ("What they call vacation time now") Hap worked on his daddy's farm.

"The farm was just out of Farmersville and my dad had the boys take turns working during the rest of the year, but during the summer we all worked. I had six brothers and two sisters, so we got a good deal done."

A lot of cotton was raised on the Pendleton place, so it is evident that Hap comes by a certain amount of his knowledge of our business through having grown up with cotton.

"Cotton has changed a lot since then, though," Hap relates. "In those days we grew 'most anything you might call cotton . . . anything you could wrap up in a bale. The word 'quality' wasn't used very often. I remember my first year out here in West Texas we shipped a carload of Mebane cottonseed, a better quality, and sold it to our trade here in Munday. Ever since then I've been an advocate of growing better cotton. And, of course, our company has made great strides in that direction."

After leaving A. & M., Hap went to work for Carver-Bell and Co., cotton merchants, at Farmersville. After three months he was transferred to Oklahoma City as foreign shipping clerk. Following another transfer to Greenville, Hap moved to San Angelo in 1909 and entered the wholesale feed business, handling cottonseed products and farm products from the farm owned by his father's estate.

• **Where's Munday?** — Next came 1911 and Hap's move to Munday as manager of the Munday Cotton Oil Co. mill.

"I'd never even heard of the place," says Hap, "and to tell you the truth I had to go down to the railroad station and ask 'em where Munday was so I'd know where to go to report for my job.

"After I got there I had to walk to work at the mill. Yes, those were the real horse-and-buggy days, but I didn't even have a horse and buggy. Finally a farmer felt sorry for me and loaned me a horse. Then a while later I got a little buggy. That sure beat walking.

"Transportation was still quite a problem in those days, though. I remember, when I'd work the territory, I'd catch the morning train and go 12 miles to Bomarton . . . buy my seed . . . hire a livery rig . . . drive six miles back to Goree . . . see a ginner or so . . . and then ride a freight train back home. That was a full day's work.

"There were no lights or water system when I came to Munday. I helped secure the right of way for W. G. Swenson of Abilene to run the first light system over this part of the country."

This was not the only instance of Hap's actions on behalf of the City of Munday. He served as alderman for a number of years and helped organize the chamber of commerce, besides serving as its first secretary, without pay, of course.

In 1925 Hap moved to Wichita Falls where he entered the oil business with some friends, acting as field superintendent for the drilling rigs. They drilled some 27 oil wells near Electra.

Munday Cotton Oil Co. mill was sold in 1927 to Anderson, Clayton & Co. Their four gins were retained, however, and Hap acquired them soon after.

• **Then Came '32** — "Yes, in 1930 I had an equity in 900 acres of land and I owned four cotton gins. Besides that, I was vice-president of a bank. I thought I had all I wanted.

"Then came '32 and I didn't have much of anything. I had to sell all of my land and one of the gins.

"And the bank, like so many others, was having real troubles too. It looked as if our bank was going to go under with the rest, but I made a trip to Dallas and talked to 'Buck' McKinney, a friend who was at that time Governor of the Federal Reserve Bank. I went over our troubles with him and he told me . . . 'You go home and reorganize a new bank. You can do it and you are the only one who can'."

Incidentally, there was never a dollar lost in any bank in which Hap had an interest. And these, besides the First National Bank of Munday which he served as vice-president for 18 years until his retirement, included the First National Bank of Goree, the Bomarton State Bank, and the First National Bank of Farmersville.

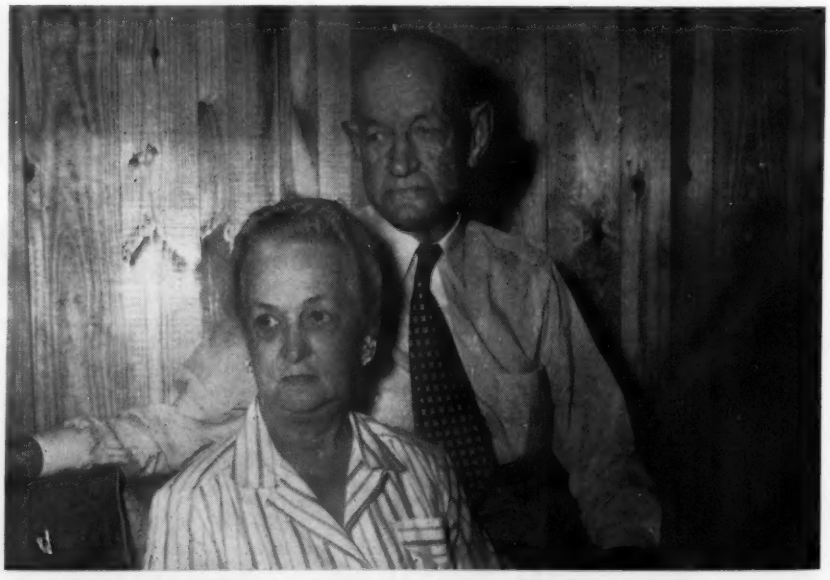
From 1932 until 1946 Hap operated his gins, as the Pendleton Gin Co. Then, in '46, he sold his interests to ACCO and was named district gin manager.

"I had had dealings before with ACCO when we sold the Munday Cotton Oil Co. to them. At that time I had gone to see Mr. Clayton personally and had thought ever since that he and the company were the finest people to deal with that I had ever come upon," says Hap. "And I've had no occasion to change my mind. They're also the best people that I know of to work for."

Hap was married on Oct. 14, 1908, to the former Marguerite Shine of Farmersville.

The Pendleton's have four children. H. A., Jr., is vice-president of the City National Bank of Wichita Falls, which is, to quote Hap, "the largest bank in Northwest Texas." Maxine is now Mrs. Roy Sanders of Wichita Falls. Paul

(Continued on Page 43)



SHOWN are Mr. and Mrs. H. A. Pendleton, Munday, Texas. His long association with the cotton industry is discussed in the accompanying article.

Quality Control Is Cotton's Biggest Asset in Meeting Competition, says A. K. Winget

•

A. K. Winget, President of the American Cotton Manufacturers Institute, and Chairman of the Board, American and Efird Mills, Inc., Albemarle, N. C., has been in the textile business for 46 years. Mr. Winget is an acknowledged expert in raw cotton matters. His company is a large consumer of cotton and manufacturer of carded and combed yarns, as well as knit fabrics.

A QUALITY PRODUCT AT A COMPETITIVE PRICE. HIGHEST POSSIBLE QUALITY, LOWEST POSSIBLE PRICE. Signs bearing inscriptions such as these appear in manufacturing plants all over America. Different phrasing—same meaning.

When cotton takes a look at its competition today, it focuses upon man-made fibers—synthetics. It sees a fiber which is subjected to rigid quality control from its inception to its completion as a man-made fiber ready to cross swords with cotton in the competitive world.

To meet the challenge and to be successful in the competitive duel, cotton quality control must find its beginning in the cotton field, and be carried forward through each step in its processing from raw state to finished product.

Cotton which has been given intelligent and proper handling in picking, ginning and baling will reach the mill door clean and in a condition requiring minimum preparatory handling, thus reducing costs and materially contributing to a "quality product".

Add CONTROLLED QUALITY and low-cost handling and processing to the natural desirable characteristics of cotton, and the result equals a strong competitive position.

Published in the interest of The American Cotton Industry by National Cotton Compress and Cotton Warehouse Association.

as viewed from The "PRESS" Box

• Cotton Wins Fight

POSTMEN will continue to wear cotton if they choose, but only as a result of a fight by the National Cotton Council and Congressmen from the South. Congress last year passed a law allowing mail carriers $100 for uniforms, but postoffice regulations specified that the uniforms must be of wool or certain synthetics. Claims that cotton fabrics will not take the blue and gray dyes the postoffice desires were disproved, and the postoffice department has promised to rewrite its regulations.

• He Was Really Escorted

FEW FRESHMEN starting to enroll in college have as beautiful or famous an escort as did Eddie Faulkner. When Eddie visited Oklahoma A. & M. College recently to prepare to enter in the fall he was accompanied by his sister, DeLois Faulkner. In case anyone doesn't recognize the name, she's the 1955 Maid of Cotton from Sallisaw, Okla., who recently completed her tour of the U.S., Canada and Europe.

• Wire Corrals Cooler

WIRE CORRALS are cooler for cattle than the wooden corral fences that are commonly used in most areas. USDA-California researchers, studying ways to improve conditions for cattle during summer heat, found that wire pens "were decidedly cooler" and that cattle in the wire enclosure gained better—by about half a pound per day.

• Silver Anniversary

FRIENDS throughout the cotton industry are congratulating Producers Cotton Oil Co., which has headquarters at Fresno, Calif., and operates mills, gins and associated enterprises in California, Arizona and Mexico, upon the observance of its silver anniversary. In an attractive brochure distributed by Producers, President H. S. Baker expresses appreciation to those who have contributed to the growth of the firm during the quarter-century.

• Research Recognized

RESEARCH by Dr. Carl M. Lyman, Texas Experiment Station, was discussed editorially by The Dallas Times Herald following a recent address by Doctor Lyman at the Dallas Agricultural Club. The research worker has been a leader in developing knowledge to expand markets for cottonseed meal, especially in swine and poultry rains. In part, the newspaper editorial said: "What Doctor Lyman was trying to emphasize was the tremendous progress . . . in agricultural research. This progress has already contributed vastly to our country's living standard, and the future promise of scientific inquiry into agriculture is bright indeed."

• Old Friend Disappears

AN OLD FRIEND of the farmer disappeared on Aug. 1 when The Country Gentleman magazine, established in 1831 as the Tennessee Farmer, was consolidated with Farm Journal. Advertisements for television sets, washing machines and other modern conveniences in the last issue would have amazed farmers of earlier days even more than did the news of Cyrus McCormick's new "Virginia reaper" which The Country Gentleman publicized in 1854.

• More Farm Labor

PUERTO RICO has available about 100,000 experienced farm laborers who can work in the continental U.S. during the summer and fall harvest season, USDA says. About 15,000 Puerto Rican farm laborers have been coming here yearly in the past, but the number is increasing. Most of them work on the island at sugarcane cutting during the winter months.

• Cotton Yields Hiked

VELVET BEANS and cowpeas, planted as cover crops, increased yields of cotton about 20 percent last year for Arthur Turner of Lamb County, Texas. Farmers in that Plains county are increasing acreages of soil improving crops.

• Two Little Words

TWO WORDS—large supply—sum up the cotton situation, says USDA's Frank Lowenstein, agricultural economist. "If farmers are to sell the output from increasingly efficient cotton farms, larger markets for U.S. cotton will have to be developed."

• Check Stations Delayed

OPENING of pink bollworm check stations at Missouri highway points, originally scheduled for for Aug. 1, has been delayed until Sept. 1. Entomologists decided that it would not be necessary to man the stations before the latter date, although a roving patrol may start checking about Aug. 15 to guard against the pink bollworm coming into the state. Missouri appropriated $75,000 to provide for the stations.

• May Pay Lint Penalty

FARMERS in the northern fringe of counties on the High Plains of Texas are planting some cotton even though they have no acreage allotment. They expect to pay the 17 cent per pound penalty, according to a report to Lubbock Cotton Exchange. Such acreage probably does not exceed 1,500 acres.

• Pepper Crop Sought

BLACK PEPPER, long imported from the Far East, may be produced commercially in Puerto Rico, USDA scientists think. Because of unsettled conditions in black pepper areas, efforts are being made to develop commercial crops on the nearby island. U.S. imported about 35 million pounds of black pepper last year and the price averaged 72 cents per pound, wholesale. It will take up to five years to determine whether the Puerto Rican plantings are successful.

• Frenchmen Distracted

NUDISTS are accused of spoiling the aim of sailors at the French Navy's rocket station near Cannes. Officials of Levant Island, which has a large nudist colony, complain that poorly aimed rockets are landing on the beach, while French naval officials contend that the nudists should be kept out of eye range so that undraped female figures will not distract the rocket aimers.

• Cool Cattle

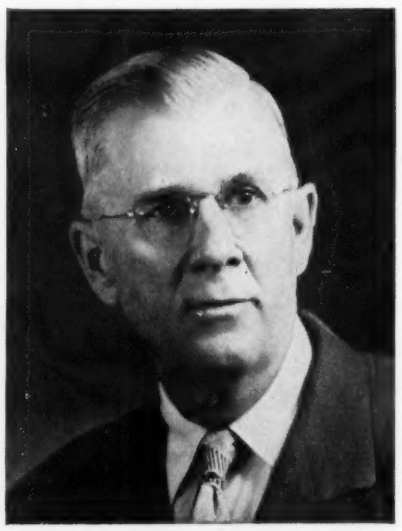
IMPORTANCE of keeping fattening cattle cool on hot summer days is emphasized by NCPA these days. Experiments have indicated that cattle sprayed with water in hot weather gain a quarter of a pound more per day than those not sprayed.

• Clay Seals Canals

SEALING irrigation canals with colloidal clay is a possibility being studied by research workers. The work is still entirely in the experimental stage, but seems likely to prove to be a fast, cheap method of reducing water losses.

• Southland Becomes Division of ACCO

SOUTHLAND Cotton Oil Co., with headquarters in Paris, Texas, was merged into Anderson, Clayton & Co., with headquarters in Houston, at the close of business on July 31. The action was approved by stockholders of the two corporations at recent meetings.



JAS. R. GILL

Southland Cotton Oil Co. will, as a division of Anderson Clayton & Co., carry on the oil mill, ginning and feed business in Texas, Oklahoma, Louisiana and Mississippi which was operated by the firm in the past.

"We are pleased," said the announcement, "that Southland Cotton Oil Co. Division of Anderson, Clayton & Co. will continue to be under the management of Jas. R. Gill, general manager. Personnel and policies will remain as before. All contracts and agreements of the merged company, Southland Cotton Oil Co. (a Delaware corporation) will be faithfully performed by its successors."

Mail the POST CARD for complete information about equipment that interests you - NO OBLIGATION - of Course!

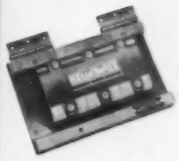
KELLY DUPLEX

Offers you

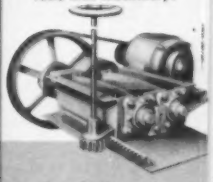
Dependable Mill Equipment

Insist on Kelly Duplex and be sure of highest profits and better savings. It's modern, trouble-free, power-saving. Costs no more than ordinary mill machinery.

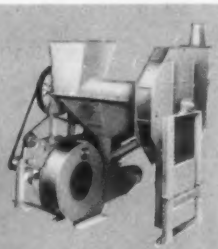
Vertical Feed Mixers ½ to 5 ton and larger



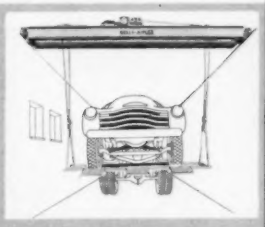
Magnetic Separator protects mill machinery.



Corn Crusher and Feed Regulator.



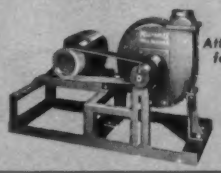
No. 100 GB Corn Sheller with Blowers for Grain and Cobs.



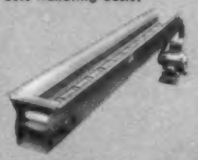
Electric Truck Hoist Cuts Handling Costs.

Corn Cutters and Graders with Aspirators.

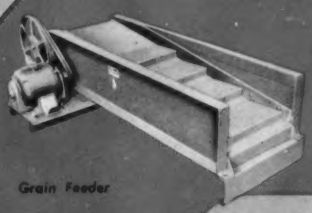
Cob Crusher for making Poultry Litter.



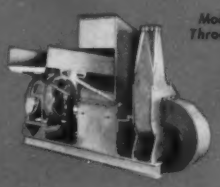
Attrition Mill Blowers for any size Plant.



Chain Drag in Double or Single Geared Types.



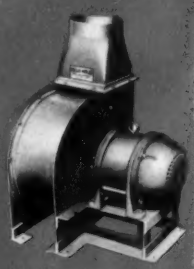
Grain Feeder



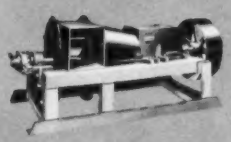
Model "S" Wide Throat Hammermill.

Forced Air Carloader with electric motor or belt drive.

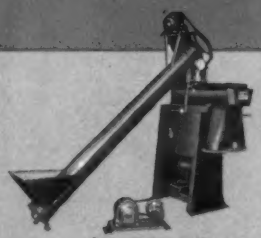
Corn Scalpers with or without Air Cleaners.



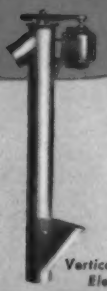
Grain Blower and Exhaust Fan



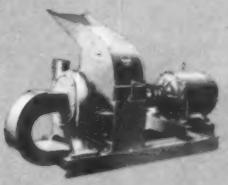
Regular and Pitless Corn Shellers



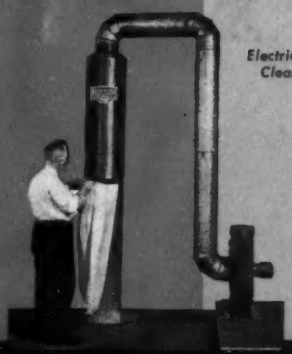
Twin Molasses Mixer



Vertical Screw Elevator



Model "M" Hammermill with Direct Connected Motor.



Electric Bag Cleaner

The Duplex Mill & Manufacturing Co., Springfield, Ohio

The Duplex Mill & Manufacturing Company Springfield, Ohio

Yes, I'm interested in the KELLY DUPLEX machinery checked at the right. Please send me full information on these machines without any obligation.

NAME_____

FIRM_____

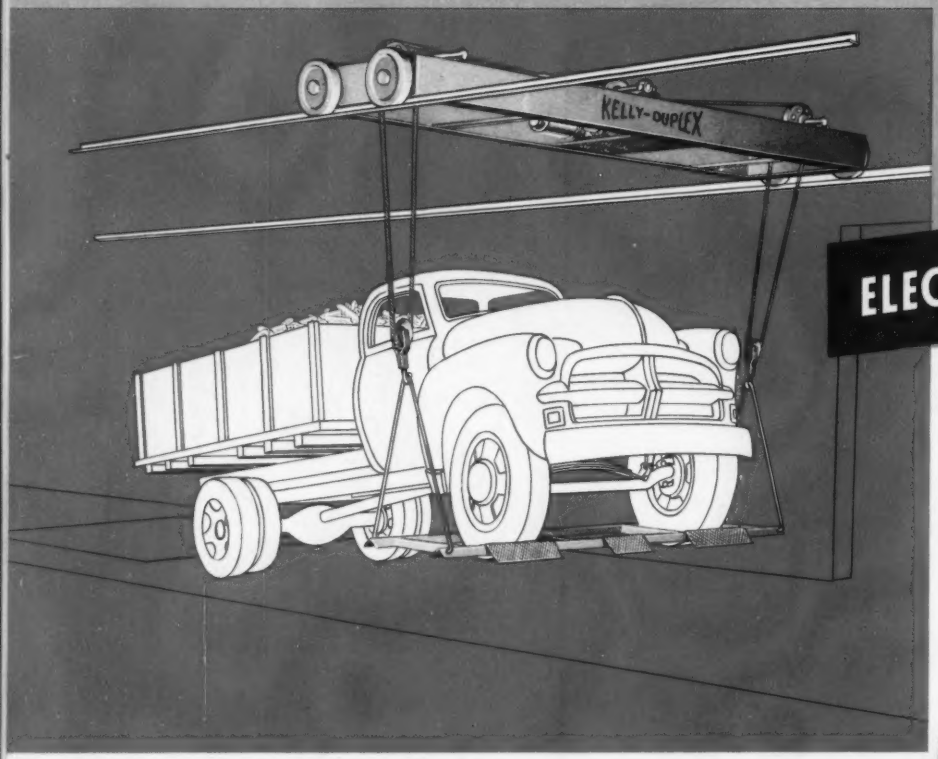
CITY_____ STATE_____

✓ here

- ☐ Electric Truck Hoist
- ☐ Chain Drag
- ☐ Vertical Feed Mixer
- ☐ Model "S" Hammermill
- ☐ Model "M" Hammermill
- ☐ Vertical Screw Elevator
- ☐ Cob Crusher
- ☐ Corn Cutter and Grader
- ☐ Twin Molasses Mixer
- ☐ Corn Sheller with Blowers
- ☐ Regular Corn Sheller
- ☐ Pitless Corn Sheller
- ☐ Magnetic Separator
- ☐ Forced Air Carloader
- ☐ Corn Scalper
- ☐ Electric Bag Cleaner
- ☐ Attrition Mill Blower
- ☐ Corn Crusher-Regulator
- ☐ Grain Feeder
- ☐ Grain Blower
- ☐ Complete Line Catalog

KELLY DUPLEX better feed and elevator machinery

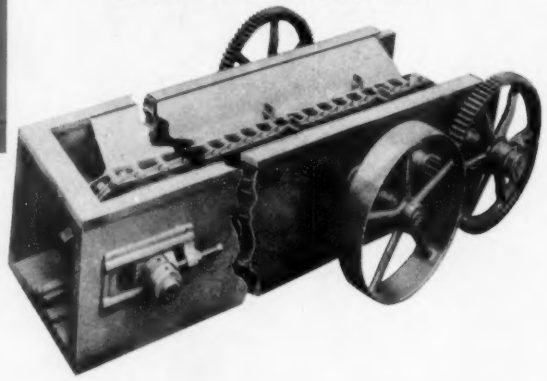
Let these two KELLY DUPLEX machines *team up* to *SPEED UP* your grain handling



ELECTRIC TRUCK HOIST

CHAIN DRAG

Kelly Duplex Single Chain Drag has "V" trough construction, choice of wood or steel box.



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Cottonseed Oil

This discussion of consumption, competition and chemistry of fats and oils shows the opportunity for developing badly-needed markets through the proper combination of research and promotion.

By LEONARD SMITH

DR. LEONARD SMITH is director of utilization research for the National Cotton Council with headquarters in Washington.

COTTONSEED OIL consumption, competition and chemistry were discussed in a thoughtful address by Dr. Leonard Smith, Washington, director of utilization research, National Cotton Council, delivered at the 1955 annual convention of North and South Carolina crushers.

Information of general interest to the oilseed processing industry is contained in the address, most of which is published below:

Until quite recent years, there was no serious accumulation of cottonseed oil stocks. Boiled down to their essentials, the reasons for this were, (1) cottonseed oil was far and away the best quality edible vegetable oil available in the market in large quantity, and (2) there was no pricing policy on vegetable oils that tended to favor competitive products.

This situation changed in 1952. Government support programs were such that the price of soybean oil, for example, averaged about two cents lower per pound than cottonseed oil. Meanwhile, by means of extensive and effective research, the quality of soybean oil was decidedly improved. Stainless steel refining equipment, metal scavengers to remove traces of catalysts from hardened soybean oil, suitable inhibitors, and other improvements contributed toward eliminating traditional problems of instability and flavor reversion. This is not to say that the problems of soybeans have been whipped completely; but it is to say that soybean oil today is a superior product to what it was five years ago.

This speech is not concerned with price support policy. The Council does not have a position in the support policy field. Our research division, however, has the job of identifying and evaluating factors that influence the consumption of cotton and cottonseed products. Price is one of these. If we are to get an accurate picture of the market for oilseeds, we cannot overlook this most important single factor.

Consumption

Last year was a banner year for fats and oils in general and for cottonseed oil in particular. Total domestic vegetable oil consumption reached a record high of 5,719,000,000 pounds during 1954, of which nearly a third was cottonseed oil, the highest consumption in history. This represented an increase for cottonseed of 49 percent over the 1953 consumption. Soybean oil consumption declined three percent. Consumption of all other vegetable oils in 1954 increased about two percent over the previous year.

Cottonseed oil stocks dropped from 1.2 billion pounds in December, 1953, to 800 million pounds in December, 1954. On June 6 of this year, uncommitted stocks amounted to less than 70 million pounds and Commodity Credit Corporation expects to dispose of this and any future acquisitions under the 1954 program by the end of the marketing year.

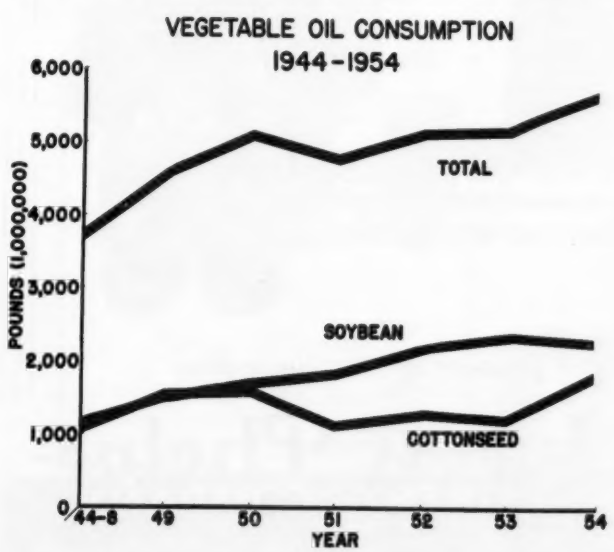
A quick run-down of the major markets for cottonseed oil should be of some interest.

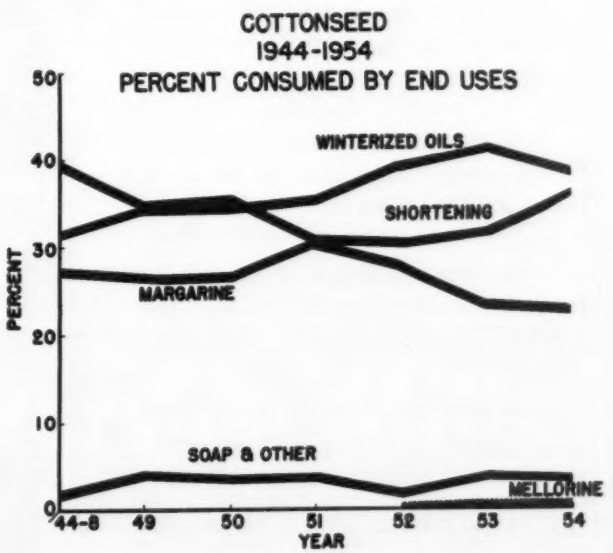
• **Shortening** — Consumption of vegetable oils in shortening in 1954 hit a record high of 1,650,000,000 pounds with each major oil used gaining over the previous year's consumption. Cottonseed was the biggest gainer, consumption increasing from 370 million pounds to 633 million pounds, or 29 percent.

• **Margarine** — Consumption of vegetable oil in margarine during 1954 also reached an all time high, exceeding one billion, of which 396 million was cottonseed oil. Cottonseed oil increased its percentage of this market, from 27 percent in 1953 to 37 percent in 1954.

• **Salad Oils** — In winterized oils, again, a record level was reached, a total of 897 million pounds being consumed in 1954. The 671 million pounds of cottonseed oil consumed in this use accounted

DEVELOPMENTS in vegetable oil consumption are shown in these two of several charts which Doctor Smith used in connection with his address. On the left, the chart shows consumption of cottonseed, soybean and all vegetable oils; the other chart shows the percentage of cottonseed oil consumed in major outlets, 1944-54.





for 75 percent of the total vegetable oil consumption in this market and represented an increase of 25 percent over the 1953 figure.

• **Mellorine** — The newest market for cottonseed oil, mellorine, was increased in 1954 from 10 million pounds to 12 million pounds. Virtually all of the gain was in cottonseed oil, which increased from 4.5 million pounds in 1953 to 6.3 million pounds in 1954. Soybean and coconut oils accounted for most of the remaining consumption, with coconut oil gaining slightly at the expense of soybean oil.

There may be an interesting portent of things to come in the story of what has happened with mellorine in Texas. In some months of 1954, mellorine production virtually doubled that for the same month in 1953. The total increase in 1954 mellorine output over 1953 was close to 5.5 million gallons, but the drop in ice cream production, which annually amounts to approximately 20 million gallons, was only about 800,000 gallons. There seems some basis, therefore, for believing that sales of mellorine can be built without jeopardizing the ice cream industry. This should be heartening to cotton farmers and dairy farmers alike.

South Carolina is to be congratulated on becoming the eleventh state to wipe out the old discriminatory law barring the manufacture and sale of mellorine. Everyone knows how much credit for this is due to the South Carolina Crushers' Association and the day-by-day attentions of Mrs. Durrett Williams and and C. FitzSimons, Jr. Not only have you made a tremendous contribution in your own state, you have added to the momentum and made the job just a little easier in those states that continue to discriminate against vegetable fat frozen desserts.

Competition

The problem of vegetable oil surpluses is not so much a problem of surplus in a particular oil as one of surplus in fats and oils generally. The most significant development over the past decade has been the increasing interconvertibility of fats and oils from different sources. This interconvertibility is not limited to vegetable oils; to a large extent, animal fats also are usable because of technical advances in the stabilization, interesterification, and flavor improvement of animal fats.

Practically all domestic fats and oils contain the same or similar components. The differences between them are simply that the relative amounts of the major components present vary, and that minor constituents present in some are not present in others. It is possible to wipe out many of these differences through chemistry, and thereby to render almost any fat satisfactory for most uses.

The differences in the various oils originally caused them to be used for different purposes. For example, linseed oil contains a large proportion of linolenic acid. This is what the chemist calls a highly unsaturated acid. It reacts rapidly with oxygen from the air to form a tough, hard film, and therefore, its big use is in protective coating and paints. Cottonseed oil is much more stable to oxidation. Because of its stability, it does not readily form films or become rancid, hence it is a good oil for food uses, especially where disagreeable flavors and odors are particularly objectionable. Soybean oil falls somewhere in between these two—not a good film former, not a good drying oil, yet sufficiently unstable to develop undesirable flavor and odors.

Hydrogenation of vegetable oils, as carried out in manufacturing vegetable shortenings, has been known and used for over 50 years. Chemists have learned a great deal about controlling this chemical reaction to get specific, desirable products. This, and the development of other processes, such as ester interchange, have made it progressively easier, and less costly, to control flavor stability and to interconvert the various oils. A natural result is that prices of various oils have tended to come closer together.

In general, the prices of the low-priced oils have gone up, while those of the high-priced oils have come down. This is in no small measure due to the chemists' ability to upgrade low end products, causing the higher quality products to lower prices to meet competition.

It seems clear that whenever the price of any one oil gets out of line, manufacturers will switch to a competitor from which they can make an approximately equivalent product. Today, almost any product that can be developed from cottonseed oil can also be made from peanut oil, soybean oil, or lard, or any of the others. For all practical purposes, we no longer have separate lots of different oils; rather, we have billions of pounds of oils annually that are largely interconvertible and which thus, offer to industrial consumers a form of price stability.

• **Must Promote Consumption** — Historically, the per capita consumption of edible fats and oils in this country has

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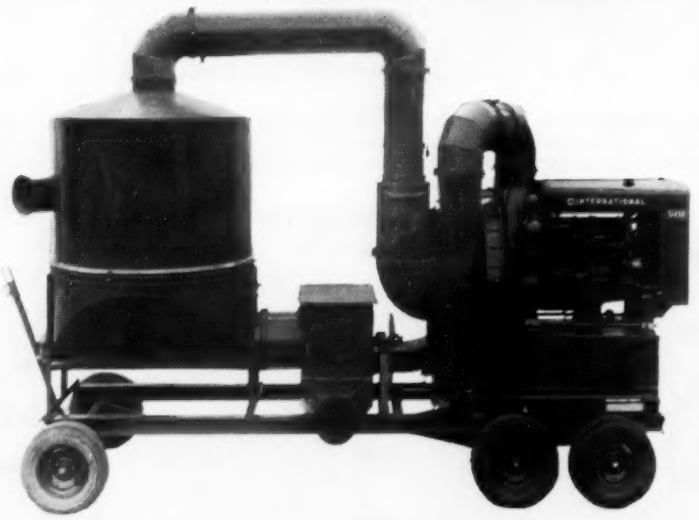

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remained pretty constant. Probably it will continue to be pretty constant, unless we do more than we have been doing to promote consumption. It need not remain forever at current levels. For example, at least one prominent nutritionist considers that Americans do not eat enough fats and oils; that what we need for improved diet is not a reduction in fat and oil consumption but an increase, coupled with a better balance, in which more protein with fewer starches would assure proper weight and better health.

The same expert considers cottonseed oil to rank first nutritionally as the source of the fat, because of the particular fatty acids which it contains. As he explains it, cottonseed oil has the highest proportion of the essential fatty acids of any of the commonly marketed fats and should therefore be considered to have an especially high nutritional value. Some of the ways in which these acids serve important functions include: the prevention of dermatitis, as a requirement for growth, as a protection for x-radiation, protection from capillary fragility, and in insuring the mobility of cholesterol.

Frankly, we need extensive research to develop support for these concepts. We need it for two reasons: First, to make the important knowledge available to the American people so that we may have a healthier population, and second, for use in promoting the consumption of cottonseed oil and cottonseed products.

Our industry has a great opportunity for expansion in margarine, the principal components of which are cottonseed and soybean oils. Margarine manufacturers prefer a mixture to the use of any one vegetable oil, mainly because margarine made from the mixture is more easily spread over a wider range of temperatures. Most manufacturers prefer cottonseed oil as the major ingredient because of its superior flavor and keeping qualities. However, if soybean oil is chaper, they will use it to the maximum extent that they can while maintaining consumer acceptance of their product.

Now, how can we enlarge this important outlet for cottonseed oil? Let us look just for a moment at a method that has proved highly successful with lint cotton. The promotion of cotton fiber as a high-fashion, high-quality textile material has resulted in tremendous gains in apparel and household markets. This promotion was effective because it was based on market research, which showed what our customers liked, what they disliked, and what types of promotion would achieve the most response. The same method will help margarine. There is no stronger testimonial to the success of the method than the simple fact that the producers of synthetic fibers have followed the Council's lead by developing active market research groups of their own.

We have already undertaken to get needed information on margarine. The Council has prepared a project outline covering a study of consumer preferences in margarine. The project has been given a high priority rating by the appropriate research advisory committees to USDA, and we hope that the study will be undertaken in the very near future. This study will show what types of fats and oils are used by consumers for table spreads and for cooking, why they chose the particular product they use, and the relative importance of quality and price on their choice of competing products; and it will analyze their opinions about specific quality advantages and disadvantages of the principal fats and oils in the major uses.

The findings will point the way toward needed product improvement, packaging techniques, display methods, and better handling, and should also tell us what types of promotional activity most likely will succeed and what channels will get promotional material most effectively to those we want to influence toward choosing margarine.

We hope to learn whether consumers think the quality of margarine has improved or deteriorated within recent years. Frankly, there have been complaints about the changing quality of margarine, and we want to know whether the incidents are isolated or general. If quality has dropped, it could have resulted from use of inferior qualities of oil or from replacing cottonseed with inferior oils. Perhaps the way margarine is stored in the home, or the way it was stored or handled by the retailer is responsible for quality deterioration. If so, education will be needed to correct a situation that is retarding the expansion of margarine consumption.

We feel sure you will agree that such information is basic to effective programs, either of research to improve margarine quality, or of promotion to increase margarine consumption.

Chemistry

Cottonseed oil has been consumed principally in edible products. This need not be the case in future years, however, for there are very real opportunities to transform cottonseed oil, especial-

(Continued on Page 36)

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Write for Illustrated Bulletin

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MODERN HEAVY-DUTY GIN POWER

Dunn Succeeds Streun At Hardwicke-Etter

John Streun, who is credited with outstanding contributions to the ginning industry, is retiring as chief engineer of the Hardwicke-Etter Co., Sherman. Homer Dunn, also a veteran with the firm, succeeds him.

Streun, who is 72, will remain with the company as chief engineer emeritus, serving in an advisory capacity.

Streun started his career in the cotton ginning industry in West Texas and was, for a short time, in Louisiana. He operated cotton gins before coming to Hardwicke-Etter in 1919.

He is holder of a long list of patents on cotton ginning devices.

Streun's joining the company signaled the advent of the manufacturing phase of the organization. Before 1919, it had operated as a mill supply firm. Since that time it has emerged as one of the largest manufacturers of cotton gin equipment in the world.

In addition to his own patents, Streun has improved on numerous processes and machines used in cotton gins.

Streun and his wife have two sons, Frank, who is with Anderson Clayton Co. in Monterrey, Mexico, and Eddie, who is a soft drink bottler at Shreveport, La.

Dunn, who becomes chief engineer, also has a long record of service with Hardwicke-Etter. He started as a workman in the manufacturing plant and served as foreman and superintendent before becoming superintendent of the manufacturing business in 1945.

He also was in charge of the shell plant which manufactured artillery shells during World War II, and the John Deere contract which the company has held for several years.

Mr. and Mrs. Dunn have a son, Homer, Jr., and a daughter, Mrs. John Stasney of Denton.

JOHN STREUN

HOMER DUNN

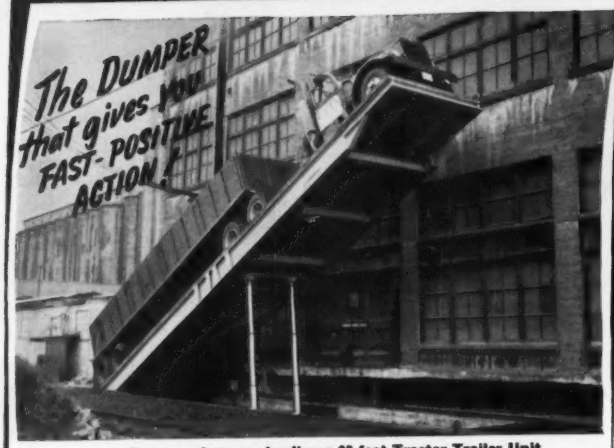
Canada Using More Cotton

Canada used 17 percent more cotton during the first 11 months of the 1954-55 season than a year earlier, USDA reports. Imports have also been running higher, with practically all of the cotton coming from the U.S.

New Mill in California

Armona, Calif., has been selected as the site for a $250,000 plant to manufacture coarse yarns, L. L. Touton and Paul Green of Fresno have announced. The mill will employ about 50 persons and produce about 60,000 pounds of cotton and rayon yarn weekly. Operations are scheduled to start in October.

There's Nothing Like A Kewanee



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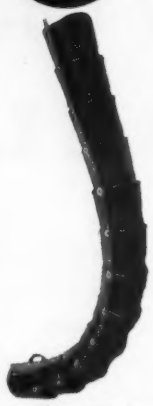

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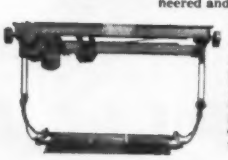

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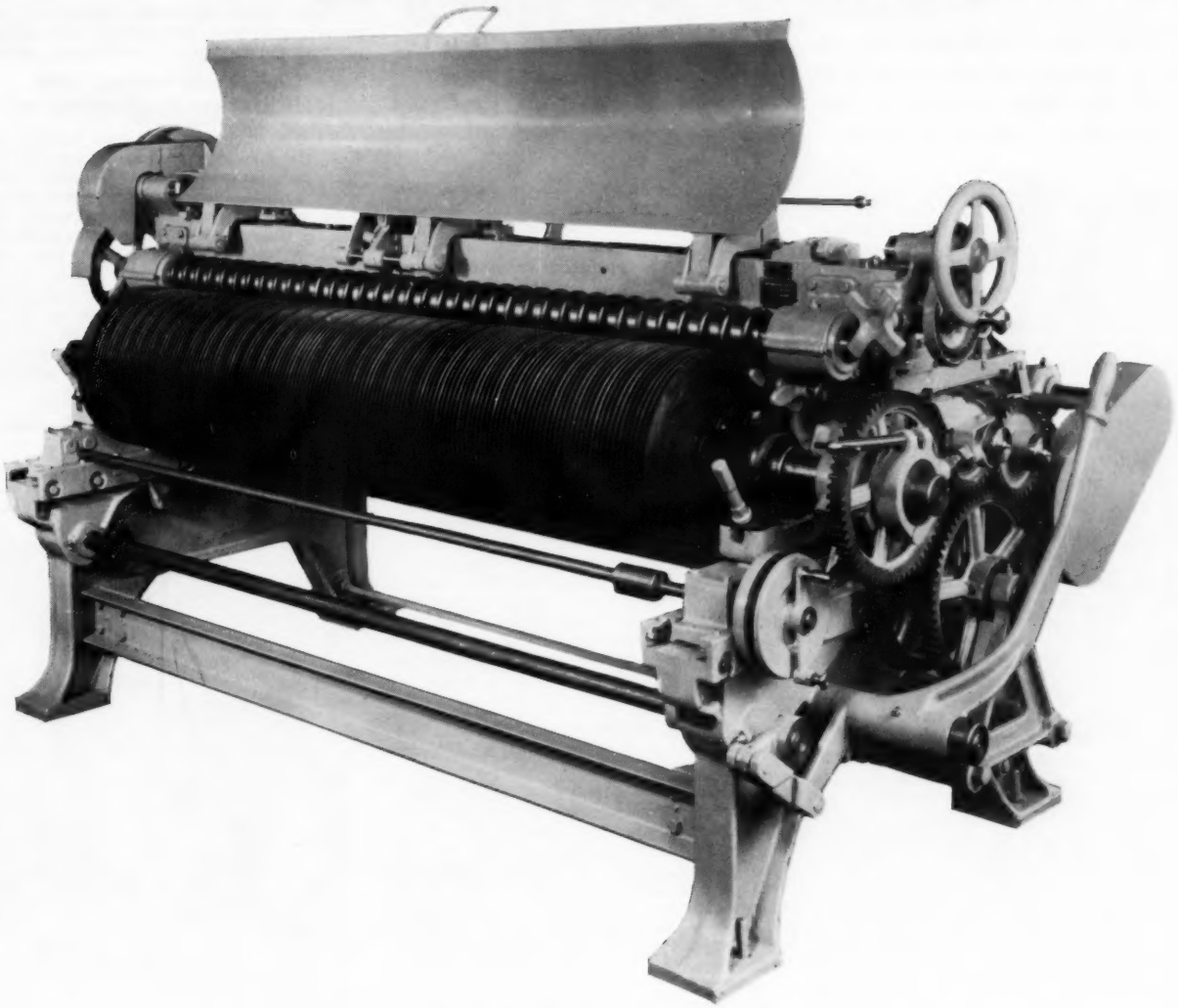

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Urea in Ruminant Rations

OIL MILLS will find valuable information in this paper by Allen D. Tillman, Oklahoma A. & M. College, Stillwater. It was presented at the 1955 meeting of the Association of Southern Feed and Fertilizer Control Officials.

PROTEIN is the principal constituent of organs and soft tissues in the body, and since body protein is continuously being replaced, a liberal dietary supply is necessary throughout life. The animal producer has the practical problem of supplying a generous supply of protein in the most economical way. In this connection, we have never had enough protein to adequately nourish our livestock. Atwater (1897) emphasized that most farm rations at that time were deficient in this nutrient. That observation is true today. Shortages of protein have undoubtedly served to decrease our potential supply of animal products.

Approximately 40 years ago, the protein supply was critical in Germany. The scientists in that country realized that ruminant animals normally consumed diets containing high levels of non-protein nitrogen compounds. This led them to test urea, which could be easily manufactured from such natural resources as coal and air, in the rations of ruminants. The results of their researches were reviewed by Krebs (1937). It is interesting to note that after 20 years of research, there was much confusion in regard to whether this compound had value in ruminant rations. Kreb's excellent review, however, did stimulate Hart *et al.* (1939) to conduct long-time growth studies with dairy calves. In these experiments urea was added to low-protein basal rations and the calves receiving the urea-containing rations grew faster than those consuming the basal rations. The results obtained in this series of experiments supplied the basic information which made it possible for the use of urea in the U.S.

Physiology of Urea Utilization

Urea is the major end product of protein metabolism in mammals. The formation of this compound takes place in the liver, which forms urea primarily from ammonia liberated by deaminized amino acids. The urea is then carried by the blood throughout the body. Some of it is filtered by the kidneys and, of course, from there appears in the urine.

Urea is very stable in the body and, as a result, has no value to the simple-stomach animal. This was very recently demonstrated by Hanson and Ferrin (1955). The most interesting work in this connection was conducted by Kornberg *et al.* (1954). These workers injected urea which contained radioactive carbon into cats and found that only 0.5 percent of the urea was broken down within one hour. Removal of body organs did not change the rate of urea breakdown, but removal of the head did. Also if they killed the bacteria located on the mucous membranes by the use of antibiotics no further breakdown occurred. These results emphasize that animals do not possess the enzyme urease in the body and if urea is changed to ammonium carbonate, the effect is due to bacteria that come in contact with urea while it is being eaten or during the process of digestion.

This, then, explains why the ruminant animal can utilize urea as a source of nitrogen. This animal's stomach is divided, (more or less) into four compartments, with the first three of these serving as fermentation vats. Here, microbes or microflora flourish in multitudes in a well regulated environment. This microflora makes the ruminant animal unique in many ways; he can utilize cellulose as an energy source, convert simply nitrogenous compounds into good quality protein and manufacture the vitamins of the B group.

When I read articles which laud the ruminant nutritionist for progress in feeding these animals, I am immediately appalled by our lack of knowledge in this field and realize that this marvelous fermentation vat, enables this animal to cover up our mistakes and in many cases make us look good even in ignorance. The nutritionist with the simple stomach animals is indeed not so fortunate.

• **Urea as a Feedstuff** — Urea is a non-protein nitrogen compound, and in its pure form contains 46.67 percent nitrogen. Most of the feed grades are diluted with some non-hygroscopic carrier and contain approximately 41.92 percent nitrogen, giving a protein equivalent (Nitrogen x 6.25) of 262 percent. Most people regard urea as an abnormal constituent of natural feedstuffs. Recent work by some of your colleagues (Perkins *et al.* 1952) of the Kansas Station shows that urea is a constituent of natural feedstuffs. Sun-cured alfalfa hay and oats have approximately four percent of their nitrogen in the form of urea. Other feeds contain lesser amounts with the oil meals containing approximately 0.25 percent of their nitrogen in this form. Ruminant animals also recycle urea by returning it, via saliva, to the rumen. It is estimated that cattle may recycle as much as 0.02 pounds of urea daily in this manner.

The crude protein content of a feed is obtained by determining the nitrogen content and multiplying the nitrogen by the average protein factor (6.25). Obviously, then, all nitrogen in a feed is considered as protein and this does not represent the truth. Natural feeds contain, in addition to urea, free amino acids, certain amino acid combinations, amides and minor amounts of nitrates and other water-soluble nitrogenous substances, all of these being classified as non-protein nitrogen compounds. Kellner (1913) reported that rapidly growing forages contain as much as 40 percent of their nitrogen in the form of non-protein nitrogen compounds. Some of his data are reproduced in Table 1.

Table 1. The Composition of Protein in the Developing Red Clover Plant. (Kellner, 1913).

Stage of maturity	Protein Crude %	Non-Protein %	True Protein %
Flowers not developed	29.2	11.7	17.5
Flowers noticeable	23.1	7.6	15.5
In full bloom	17.3	3.7	13.6
Ripe	17.0	2.0	15.0

These facts emphasize again that non-protein nitrogen compounds are not abnormal constituents of ruminant rations.

Factors Affecting Urea Utilization by Ruminants

Kreb's excellent review pointed out that the protein-sparing action of urea was recognized by the German scientists, but that this fact was not always demonstrated. Subsequent work has shown that many of their experiments were of short duration and that urea was fed in combination with various diets. These workers also substituted urea for protein supplements on the basis of their relative nitrogen content. That procedure made no provision for the energy, mineral, vitamin, and pos-

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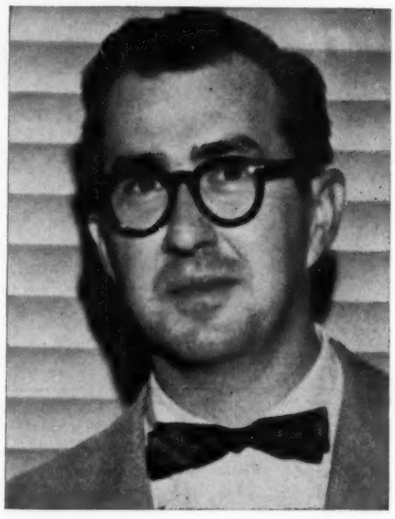
Clifford H. Hardy

Bennettsville, S. C.



CLIFFORD H. HARDY, Bennettsville, S.C., is a native of Dillon, S.C., and graduated from The Bolles School in Jacksonville, Fla., in 1942. He attended Davidson College, N.C., for one year prior to entering the U.S. Navy where he served as a neuro-psychiatric technologist. Upon his discharge from service, he entered the University of South Carolina and majored in journalism and English.

For some time following his work at the University, Hardy assisted in the management of the family farms. He first began work in the ginning industry with T. C. McSwain & Co. of Minturn, S.C., and served as office manager for three years. For a short while, he was connected with Southern Cotton Oil Co. in Dillon, S.C.

In May, 1952, he became executive secretary of The Carolinas Ginners' Association, Inc., and has continued in that capacity. In April, 1954, he was elected executive secretary of the National Cotton Ginners' Association.

Hardy is a member of the Methodist Church, the Moose Club, the American Legion, Pi Kappa Phi, and the German Club. While in school he served on the board of various publications and was editor of The Bolles Bugle, the school annual.

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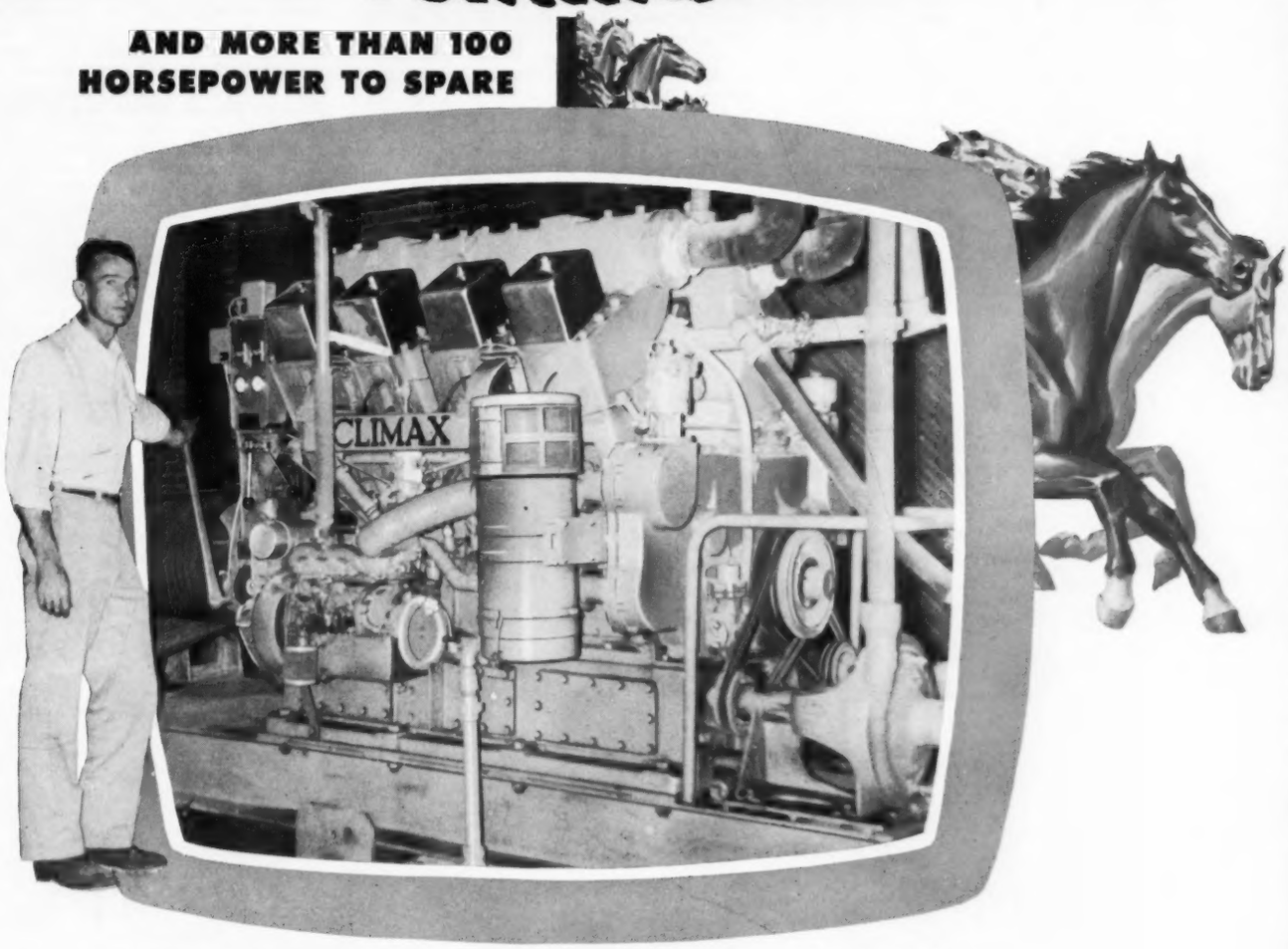

When the Shaw Gin Company, Shaw, Mississippi, improved their gin for the 1954 season they used a Climax Model V-85 to replace the two engines that had formerly powered the gin. Mr. Howard Tapley, manager of the gin, reports that the Climax V-85 powering a modern 3-90 gin with lint cleaners, overhead cleaning and two dryers produced the best sample in the community and that the uninterrupted, smooth flow of power from his Climax V-85 was a major factor for his successful 1954 season.

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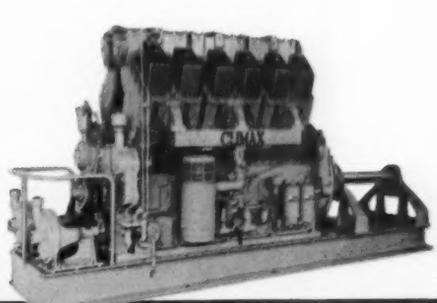

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sibly, other growth factors contained in the oil meals.

It should be emphasized that urea supplied only nitrogen. It is not "contaminated" (if we can use this connotation) as are the oil meals with other nutrients. When one substitutes urea for a part of an oil meal, an energy source, the minerals, the vitamins and possibly the unknown growth factors for ruminant micro-organisms contained in the oil meal, should be added to the urea ration to make the results strictly comparable. It is interesting to consult the literature, as was excellently done by Reid (1953), in order to evaluate rations and other conditions wherein urea is utilized by ruminant animals. It is even more interesting to evaluate these conditions when very poor or no utilization was obtained. The following facts stand out when such a review is made.

1. When urea is used to replace the oil meals, the new ration must be evaluated in reference to its energy and minerals content. A deficiency of energy and/or one of the various mineral elements definitely lowers the utilization of urea. In this connection, one could suggest that urea be used in "good" rations only.

2. A low level of true protein and a high level of starch in the ration favors urea utilization.

3. Highly soluble and readily hydrolysable protein in the ration tends to depress the utilization of urea.

4. Sugars and cellulose are inferior to starch as sources of energy for the microflora; however, a mixture of sugar and starch supported satisfactory conversion in certain *in vitro* experiments.

5. Urea has no value in rations of simple stomached animals.

6. Urea is somewhat inferior to the conventional protein supplements as a source of nitrogen for growth of beef cattle. The present evidence supports the idea that for cattle not more than one-third of the nitrogen should be supplied by urea. Some would agree that 20 to 25 percent would be a better figure.

7. For fattening cattle, the value of urea is somewhat less when urea is fed at levels higher than 25 percent of the nitrogen of the total ration or supplying 50 percent of the nitrogen in the protein supplement.

8. For fattening lambs, the results are confusing. Some data support the idea that in rations containing not over 12 percent crude protein, urea can satisfactorily replace 25 percent of the nitrogen of the total ration.

9. Urea is a satisfactory substitute for about one-third of the nitrogen in the rations of ewes during gestation or lactation.

10. For the lactating cow, urea can satisfactorily be used at levels of one percent of the total ration or three percent of the concentrate ration. Again these levels will supply no more than one-third of the total nitrogen as urea.

11. There is evidence indicating that frequent feedings stimulate urea utilization.

• **Toxicity of Urea** — Green (1955) mentioned that shortly after urea was introduced in this country, a milling accident occurred and some cows died as a result of consuming too much urea. The first group of workers to study the manifestations of urea overdosing was Dinning *et al.* (1948) of the Oklahoma Station. Further results of the Oklahoma work were reported by Gallup *et al.* (1953) and Whitehair *et al.* (1955). These workers reported that under field conditions, urea-containing feeds, at times, may produce toxic effects on cattle. Their experiments were designed to study acute and chronic urea toxicity. I shall direct my discussion along these lines.

• **Acute Toxicity** — The possibility of producing acute toxicity was studied with steers in two ways. One procedure consisted of fasting the animal for 48 hours with these animals then being fed various amounts of urea, according to body weight, in a molasses-urea mixture. The other method consisted of forcing, by means of stomach pump, a water solution of urea directly into the rumen. Acute toxicity was produced by both methods.

The general symptoms of acute toxicity were as follows: From 30 minutes to one hour after ingesting the urea-containing mixture, the steers showed uneasiness, staggering and kicking at the flank. These symptoms were followed by more serious incoordination, tetany and finally prostration. The animals usually went down within 30 to 60 minutes. While prostrate, the most pronounced symptoms of distress were severe convulsions, slobbering at the mouth and bloating. The latter symptom was consistent. Blood ammonia values reached levels as high as eight milligrams per 100 milliliters of blood. Blood urea values were only slightly higher than normal. Post-mortem examination revealed no specific tissue changes. The rumen

(Continued on Page 58)

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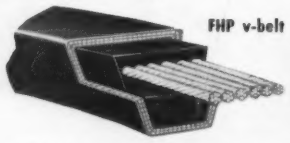

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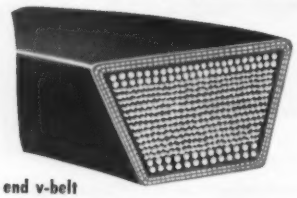

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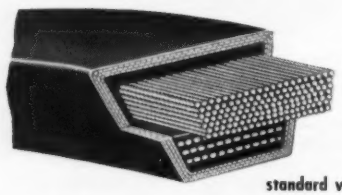

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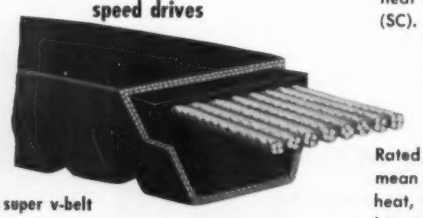

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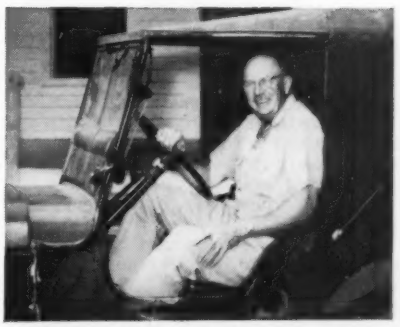
You don't need a different insecticide for every pest. Cotton states recommend toxaphene formulations for swift, effective control of a wide variety of cotton insects. And many cotton farmers tell us that toxaphene applications in late season give such good protection of the still tender top crop that yields are boosted enough to pay for the whole season's insecticide bill.

Farmers who rotate their land to root crops prefer toxaphene insecticides, too. Tests and actual experience show that toxaphene does not contaminate the soil—does not impart off-flavor to root crops.

Your dealer has supplies of toxaphene dusts or spray materials. Protect your valuable crop through to picking time. Control cotton insect pests with toxaphene.



PROVED IT FOR HIMSELF—Talley Smith, Rowesville, South Carolina, uses toxaphene exclusively. "I built my own insect cages and tested the effects of different insecticides," Mr. Smith reports. "My tests proved to me that toxaphene kills more pests of cotton and gives longer protection."

TOXAPHENE dusts · sprays

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Cottonseed Oil

(Continued from Page 28)

ly the foots and low grade fractions, into more useful chemical products. Much work in this direction has been done at the Southern Regional Research Laboratory in New Orleans. Let us speculate about a few possibilities.

One possibility lies in the transformation of these fats to what chemists cali acetoglycerides. In this reaction some of the long chain fatty acids that are combined with glycerol in cottonseed oil are replaced by acetic acid. If some of the long chain stearic acid molecules in hydrogenated cottonseed oil are replaced by the short chain acetic acid molecules, the resulting material is still a solid but it is no longer brittle and it does not have the greasy feel of the hydrogenated cottonseed oil. Instead, the product is flexible and waxy. If some of the fatty acid radicals of the unhydrogenated cottonseed oil are replaced by acetic acid radicals, the oils that result stay liquid even at very low temperatures.

These products, the acetoglycerides, are true fats, but they are a new kind of fats that never occur in nature. They surely must be completely edible because the only change has been to replace one edible fatty acid with another edible fatty acid. However, the Food and Drug Administration, quite properly, insists that the product be thoroughly proved in feeding tests. These tests have been under way for two years.

The acetoglycerides have a number of potential uses. Coatings for many kinds of food products, especially those kept in deep freeze, are one. Another is the use in a margarine-like spread for the military, which will have good keeping qualities and which will spread as well in the Arctic as in the tropics. After much experimentation, a formulation has been achieved which the Defense Department is procuring for extensive trials.

Other chemically modified fats and oils are being used in the manufacture of resins for use in such products as garden hose and wall tile.

Cottonseed oil has many research needs specific to itself. Perhaps the most important ones relate to gossypol, the pigment responsible for color fixation in crude cottonseed oil, which makes bleaching such a problem for the refiner, and for limiting, until recently, the use of cottonseed meal feeds to ruminant animals. Consumption of cottonseed foots, or soap stock, has been seriously reduced by the growing use of synthetic detergents. If the gossypol in soap stock could be removed or destroyed, the foots could be used to increase the nutritive value of feeds by adding five percent or six percent to the feed. Not only would it improve the nutritional value, it would also improve pelleting properties, and decrease the dustiness of solvent extracted meal.

If cottonseed foots are heated to about 400° F. for just two minutes, the gossypol is completely destroyed. Unhappily, the cottonseed soap stock contains 50 percent water, which, at 400 degrees, generates a steam pressure on the order of 200 to 225 pounds per square inch. Either the water must be removed, which is impractical, or the treatment must be carried out in equipment which is able to withstand this pressure. Development of a small pilot plant to process the foots is now under way at the New Orleans Laboratory.

There are other opportunities to find industrial outlets for cottonseed oil products through chemistry. Without going into the chemistry involved, let me say that it should be quite feasible through research to develop commercial methods for producing from vegetable oils a wide range of industrially important organic acids. For example, sebacic acid, now made from castor oil at a cost of 70 cents a pound, is used by the millions of pounds each year in the manufacture of special lubricants and plastics. The difference in price between this product and the oleic or linoleic acid from which it could be made is sufficient to give a chemical manufacturer considerable room in which to operate. With adequate research we could find many outlets which are now not supplied from cottonseed.

Our cottonseed industry has some very definite needs. We need more extensive market and technical studies to serve as the basis for research planning and encouragement, because we know that there will be increasing pressure from competing oils and fats through improving technology.

• **Job Can Be Done** — Experience with lint cotton shows that the National Cotton Council can be highly effective in stimulating needed research and promotion. Through such activities we can solve our problems of gossypol elimination, improvement of low grade products, extension of industrial outlets and seed storage stability, and substantially increase the total consumption of cottonseed oil and meal products.

With the growing interconvertibility of various fats and oils, we need more than ever to watch our P's and Q's, our price factors and our quality factors. We must be conscious of the fact that when the price of cottonseed oil gets out of line with the prices of competing fats and oils, our customers will surely turn to alternate sources of supply. We must maintain high standards of quality in flavor, stability, nutritional value, and we must promote these high standards to consumers of frozen desserts, table spreads and cooking fats to an extent that it has never been done before.

All of these things we can do. It will require more detailed knowledge of our markets through market research. It will require more adequate technical research and product development to meet market needs and processing requirements. It will require more technical education and service within our crushing industry itself. These goals are not impossible or even impractical. Working together through the National Cottonseed Products Association and the National Cotton Council, these goals should, indeed, be viewed as rather modest ones. We are confident that they will be achieved.

Dominican Republic Will Help Cotton Producers

To encourage domestic cotton production, the Dominican Republic is enabling the country's largest textile mill to provide technical and financial assistance to farmers growing cotton. The firm will provide farmers, free of charge or at cost, with seed, insecticides and machinery, as well as with information, reports to USDA indicate.

Indonesia To Establish Soybean Milk Plant

A plant is being established in Djakarta, Indonesia, to produce soybean milk, USDA reports. The project is an activity of the Food and Agriculture Organization of the United Nations in cooperation with the Indonesian government, which is building the plant and will finance its operations.

14-Year Cotton Output Record For Texas Prison System

COTTON AND COTTONSEED grown on Texas Prison System land in 1954 brought the state $2,160,142, one of the largest totals ever. The remarkable thing about this record is the fact that acreage was drastically slashed in 1954. In 1953 the System sold cotton grown on 14,770 acres for just over $2.2 million. In 1954 the prison acreage allotment which brought more than $2.1 million was only 9,135 acres.

Advanced production practices account for gains, which show up in such statistics as these: the 1941-47 average yield per acre was .315 bale; in 1948-54 the average yield was .753, and 1954's 1.19-bale-per-acre yield was the highest of record.

O. B. Ellis, Huntsville, is general manager of the Texas Prison System, and B. W. Frierson, Sugar Land, is assistant general manager in charge of agriculture. Statistics covering the last 14 years of cotton on prison land follows:

Year	Acreage	Bale yield	Av. bales per acre	Sales of cotton	Sales of cottonseed	Total sales
1941	12,534	1,185	.095	$ 133,992	$ 55,707	$ 189,699
1942	10,300	4,275	.415	358,139	160,759	518,899
1943	4,000	2,144	.536	203,040	51,336	254,376
1944	3,600	1,267	.352	128,509	22,229	150,738
1945	4,000	2,197	.549	214,546	45,519	260,065
1946	4,250	410	.096	59,891	15,873	75,764
1947	4,650	2,215	.476	366,956	70,158	437,114
7-Yr. Average	6,191	1,956	.315	209,296	60,226	269,522
1948	7,160	3,441	.481	548,898	101,699	650,597
1949	10,850	3,821	.352	532,292	55,928	588,219
1950	7,200	4,031	.560	817,097	157,462	974,559
1951	11,419	10,409	.912	1,809,834	272,753	2,082,587
1952	13,135	10,980	.840	2,020,808	370,017	2,390,825
1953	14,770	12,352	.840	1,939,382	267,720	2,207,102
1954	9,135	10,929	1.19	1,863,176	296,967	2,160,142
7-Yr. average	10,524	7,933	.753	1,354,673	215,583	1,570,256
Grand total	117,003	69,227	.591	10,947,786	1,930,658	12,878,444
Av. per year	8,357	4,947	.591	781,985	137,904	919,889

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HOME OFFICE - DALLAS, TEXAS

OFFICERS of two soybean associations who will have prominent parts in the conventions discussed in the accompanying story are shown in these pictures. In the photograph on the left, listed left to right, are Albert Dimond, Lovington, Ill., vice-president; George M. Strayer, Hudson, Iowa, secretary-treasurer; and Jake Hartz, Jr., Stuttgart, Ark., president, of the American Soybean Association. The picture on the right shows R. G. Houghtlin, Evanston, Ill., president, on the left, and W. E. Huge, Fort Wayne, Ind., vice-president, of the National Soybean Processors' Association.

In Cincinnati, Aug. 29-31

Two Soybean Groups Plan Convention

■ PROGRAM listed for meetings of American Soybean Association and National Soybean Processors.

Members of the National Soybean Processors' Association and of the American Soybean Association will hold their annual meetings at the Netherlands Plaza Hotel, Cincinnati, Aug. 29-30-31.

National Soybean Processors' Association will hold its annual business meeting on Monday, Aug. 29, and most of the membership will remain for the sessions of the American Soybean Association on Aug. 30-31. Officers of the processors' group are R. G. Houghtlin, Evanston, Ill., president; R. G. Golseth, Danville, Ill., secretary; H. A. Abbott, Chicago, treasurer; and W. E. Huge, Fort Wayne, Ind., vice-president.

Officers of the American Soybean Association are Jake Hartz, Jr., Stuttgart, Ark., president; Albert Dimond, Lovington, Ill., vice-president; and George M. Strayer, Hudson, Iowa, secretary-treasurer.

Meetings of the American Soybean Association board of directors, trade and use promotion committee, resolutions committee and nominations committee are scheduled for Monday. Exhibits also will be open on Monday.

Convention sessions will open at 9 a.m. Tuesday, Aug. 30, with President Hartz presiding. The tentative program has been announced as follows:

• **Tuesday** — "Varietal Research Work Under the Expanded Program," speaker to be announced.

"The Need for Research on Soybean Oil Meal," Dr. J. C. Cowan, head, oilseeds section, Northern Utilization Research Branch, USDA, Peoria, Ill.

"What Will We Get for 1955-Crop Soybeans?" Dr. T. A. Hieronymus, associate professor, department of agricultural economics, University of Illinois, Urbana.

"Are We Headed for Soybean Surpluses?" speaker to be announced.

Afternoon—Howard L. Roach, director, American Soybean Association, presiding.

"The Market for Soya Products in Europe," G. Chipperfield, president, International Association of Seed Crushers, London, England.

"The European Market from the American Viewpoint," J. W. J. Stedman, marketing specialist, fats and oils division, Foreign Agricultural Service, USDA, Washington.

"Soybeans with Which We Must Compete in European Markets," Paul C. Quintus, head, fats and oils division, Foreign Agricultural Service, USDA, Washington.

"How They Look to the Grader," Jason C. Barr, chief, inspection branch, grain division, Agricultural Marketing Service, USDA, Washington.

"The Government Position in Fats and Oils," speaker to be announced.

5:45 p.m.—Reception, courtesy the Procter & Gamble Co.

7:00 p.m.—Annual convention banquet; presentation of honorary life membership award; and address, "The Farmer's Stake in World Trade," Hon. Charles P. Taft, president, Committee for a National Trade Policy.

Wednesday—President Hartz will preside at the annual business meeting opening the session, after which Albert Dimond will preside.

"The National Soybean Crop Improvement Council," speaker to be announced.

"The Interdependence of Soybean Processors and Growers," Dwayne Andreas, president, Honeymead Products Co., Mankato, Minn.

"How Much Soybean Oil Meal Can We Utilize?" speaker to be announced.

Luncheon—Speaker to be announced.

David G. Wing, director, American Soybean Association, will preside that afternoon.

"Soybeans in the 1956 Farm Programs," speaker to be announced.

"Is There a Hungry World Today?" speaker to be announced.

"Can We Expand Soybean Oil Markets?" speaker to be announced.

"Soybeans Around the U.S." series of pictures on soybean production and utilization in different areas of the U.S.

N. G. Davis, Retired Texas Ginner, Buried at Bowie

N. G. Davis, 81, a retired ginner and cotton buyer, was buried at Bowie, Texas, last month. A native of Lewisville, he had lived at Bowie for 53 years. He was a charter member of Texas Cotton Ginners' Association and regularly attended conventions until he retired.

Survivors include his son, W. G. Davis of Pharr; three daughters, Miss Gracie Davis of Denver, Mrs. W. T. Watkins of Alamogordo, N.M., and Miss Lura Dean of Denver, Mrs. W. T. Watkins of Alamogordo, N.M., and Miss Lura Dean Davis of Bowie; a sister, Mrs. H. A. Fairchild of Ardmore, Okla., and two grandchildren.

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• Arkansas Had Record Drouth in 1952-54

THE DROUTH in Arkansas during the past three years—1952, 1953 and 1954—was the worst ever experienced by that state, as far as duration is concerned. This fact is brought out by M. O. Asp, U.S. Weather Bureau, Little Rock, in a recent study of drouth records in Arkansas, published in the Weekly Weather and Crop Bulletin.

Arkansas normally receives an average of 48.82 inches of rainfall yearly. This average ranges from about 39 inches in west central portions to more than 53 inches in a number of mountain areas.

• **Drouth Facts Summarized** — Asp's studies of drouths represent a continuation of an analysis made a number of years ago by H. S. Cole. Some of the conclusions reached regarding drouths during the period 1931-54 are:

Most drouths are of short duration. About one-half of the drouth periods between 1931 and 1954 were less than 30 days in length, and about nine out of 10 of the drouths were less than 60 days long.

Prolonged drouth periods occur infrequently. During the 1931-1954 period there were 11 periods of 100 days or more at the 12 stations, while during the 1897-1930 period there were 10 periods over 100 days.

The longest drouth on record at any of the 12 stations studied was 154 days in length at Fort Smith from Dec. 7, 1935, to May 8, 1936. Calico Rock, with a 138-day drouth in 1953, equaled the record of earlier years in Cole's tabulation of 138 days at Little Rock in 1887. Other drouths of 100 days or longer were as follows:

Fort Smith: 114 days—July 4-Oct. 25, 1939.

Fulton: 134 days—July 8-Nov. 18, 1934.

Helena: 106 days—July 4-Oct. 17, 1935; 128 days—Aug. 17-Dec. 22, 1938; and 101 days—June 4-Oct. 2, 1954.

Little Rock: 113 days—May 30-Sept. 29, 1954.

Mena: 122 days—May 30-Sept. 28, 1954.

Newport: 104 days—Aug. 8-Nov. 19, 1953.

For the state as a whole, drouths were more prolonged in 1953 than in any previous year of record. The total number of drouth days in 1953 for the 12 stations was 1,459, an average of 122 days per station. Record number of drouth days in any previous year was 1,390 or an average of 116 per station in 1901, 1,269 or an average of 106 per station in 1914, and 1,236 total or 103 average per station in 1936.

Considering periods of three consecutive years, the three-year period just past had a greater number of drouth days than in any previous period of three consecutive years. Total number of days of drouth for the 12 stations for 1952-1953-1954 was 3,382, as compared with the three years 1934-1935-1936 of the mid-30's when there were 2,884 days of drouth. In earlier years, the 1901 through 1903 period had 3,155 days with drouth, followed by the 1897-1899 period when a total of 2,446 drouth days was recorded.

Drouths usually begin during the summer or early fall months. More drouth periods begin in September than in any other month, while the onset of drouth has not been recorded in February and only three times in March. The frequency of beginnings of drouth periods by months (1931-1954) is as follows: January 13, February 0, March 3, April 16, May 47, June 51, July 58, August 47, September 78, October 19, November 23, and December 11.

• **Total Deficiency 22 Inches** — The length of the drouth period was the only factor studied in this analysis, but Asp calls attention to the fact that intensity cannot be measured by length alone. The 1930 and 1954 drouths, for example, were not the longest on record, but were especially severe because of the high temperatures which accompanied the lack of moisture.

From May, 1952, to the end of 1954, Arkansas rainfall showed an accumulated deficiency continuously, except for a single month. At the end of the 1952 the accumulated deficiency was 5.6 inches. By the end of 1953 the deficiency amounted to 11 inches below average, and at the end of 1954 the three-year accumulated deficiency was over 22 inches.

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National Fats and Oils Brokers' Association

GEORGE K. DAHLIN, *President*

• Good Management Practices Pay

GOOD MANAGEMENT practices are paying off in cotton production for Oral Nichols, who farms 224 acres near Carlsbad, says New Mexico Extension Service. Nichols has averaged more than two bales per acre on his cotton.

Irrigation water is supplied from the Pecos River and supplemented with well water. The land is planted to cotton, alfalfa, Sundan grass and grain sorghums.

Nichols bought his first dirt-moving equipment—a five-yard scraper — in 1951. Since then, 143 acres have been bench leveled. Nichols starts his land leveling right after the first cotton stalks are cut and continues until it is necessary to get the ground ready to plant next year's crop. In the summer, he prepares the land for fall seeding of hay.

In 1953, Nichols had 2,480 feet of concrete lining poured in an elevated ditch. It used to take 1½ hours for the water to get to the other end of the ditch. It now takes only 15 minutes. Besides, the ditch has saved a great amount of water by eliminating seepage.

Three years ago, Nichols put 60 concrete checks in his lateral ditches to get better water control. Last winter, 130 metal turn-outs with metal gates were installed. Now there is no need to cut the ditches and fill the spillway. This has saved labor as well as water.

"One man can now irrigate where it used to take two or three men," says Nichols. By changing the irrigation layout of the farm, which consisted of many blocks watered in different directions, he has been able to use a master ditch, thus eliminating the many little ditches and gaining more culitivated land.

The Nichols farm averaged just a fraction under two bales per acre in 1953. Last year's crop of 79 acres of 1517C cotton will probably exceed that. Geese were used for the first time last year to weed out Johnson grass in cotton. At the beginning of the season, an average of 2½ geese were grazed per acre. Toward the end of the season, this was cut down to two geese per acre. Geese also kept the ditch clean of Johnson grass.

A 50 percent cotton and alfalfa program is the type of rotation plan that Nichols wishes to maintain. Never has he grown more than 125 acres of cotton on his farm.

Aphids have caused some change in Nichols' rotation plans. Some old alfalfa fields were plowed under earlier than usual. Sometimes the shortage of irrigation water reduced alfalfa acreage on the farm. In 1954, the alfalfa acreage was less than Nichols likes. "I like to rotate alfalfa with cotton because I think it is the best soil fertility builder we have," he says. Six tons of alfalfa hay are made in five cuttings each year. The alfalfa is fertilized annually with a top dressing of 60-90 pounds of available phosphate. In past years, hay had been sold to truckers, but in 1954, most of the hay was fed on the farm.

Cattle fit into the Nichols' farming picture as they are fed out on roughage and concentrate raised on the farm. Calves and yearlings are bought every year and finished out to a weight of 900-1,000 pounds. Nichols does not plan to keep a cow herd, as he figures that there is not as much return per investment as there is in feeding out younger animals. All animals are sold by June 1, and new 400 or 500-pound calves are purchased and placed on summer pasture. The heavier calves are placed in feed lots shortly, and the lighter ones are grazed on cotton stalks and in alfalfa fields.

Nichols likes to graze the fields as clean as possible before plowing. Later in the year, light calves are fed out. All cattle are fed a ration of silage, alfalfa hay, grain sorghum, and cottonseed meal.

FACT

for ADVERTISERS:

■ Your advertising message in this issue will be read by cotton gin and oil mill men in every cotton and oil-seed-growing section of every producing state—from California to the Carolinas and from the Gulf to the Canadian border.

• Irrigation Increases Yield in Arkansas

COTTON YIELDS were increased significantly each year by irrigation in tests in Arkansas from 1950 to 1954. The results are reported in Bulletin 552, "Irrigation of Cotton in Arkansas."

Authors are D. A. Brown, R. H. Benedict and B. B. Bryan of the departments of agronomy and agricultural engineering of the Arkansas Experiment Station.

The experiments were conducted at the Cotton Branch Station, Marianna, on Richland silt loam soil, and the water was applied by sprinklers.

Irrigation resulted in yield increases ranging from 285 to 1,195 pounds of seed cotton per acre. The five-year average increase was 689 pounds per acre, or 42 percent.

Weeds Costly to Farmers

Weeds are costing Tennessee farmers 40,000 bales of cotton annually, Tennessee Extension Service estimates. Lewis Dickson, associate agronomist, estimates that total loss to the state's farmers from weeds each year is around $3,500,000.

• Chemicals Meeting To Be Sept. 7-9

THE EFFECTS of research and economics on the future of the pesticide industry will be highlighted at the annual meeting of the National Agricultural Chemicals Association at Spring Lake, N.J., Sept. 7-9, L. S. Hitchner, executive secretary of the association, has announced.

LEA S. HITCHNER

"Never before have research and economics been more important to the pesticide industry and to the entire field of agriculture," Hitchner declared. "Pesticides already are making a major contribution toward reducing labor costs on the farm and toward aiding the food industry in various processes involved in delivering high quality foods to consumers at prices they can pay. Through discovering new uses for materials now available and through development of new products, research can greatly increase the contributions the industry will be able to make to agriculture and to the general welfare."

Speakers at the meeting will include: Warren Moyer, president of Chipman Chemical Co.; H. E. Luedicke, editor of the Journal of Commerce; A. W. Mohr, president of California Spray-Chemical Corp.; Dr. John T. Thurston, director of Stamford Research Laboratories, American Cyanamid Co.; G. E. Lehker, professor of entomology, Purdue University; Dr. S. W. Simmons, chief of technology branch, U.S. Public Health Service, Atlanta; and James D. Hopkins, president, Hopkins Agricultural Chemical Co.

One of the highlights will be a panel discussion on the latest developments relating to the Miller Amendment, which regulates the use of pesticides on food crops. The amendment, now Public Law No. 518, is designed to strengthen the Federal Food, Drug and Cosmetic Act, which requires food shipped in interstate commerce to be pure and wholesome.

Panel members will be Winton B. Rankin, assistant to the commissioner, U.S. Food and Drug Administration; Dr. W. G. Reed, head, pesticide regulations section, Plant Pest Control Branch, USDA; and Dr. Charles W. Palm, head, department of entomology, Cornell University.

Missouri Cotton Producers Name Committee Heads

Chairmen and members of 17 standing committees of Missouri Cotton Producers' Association have been announced by Leo E. Killion, president.

Jake Weaks, Sikeston, is chairman of the executive committee, with R. K. Swindle, Senath, as vice-chairman. Chairmen and vice-chairmen of other standing committees are:

Bale and grade identification—O. H. Acom, Wardell, chairman, James M. Wallace, Charleston, vice-chairman; cotton promotion—Don Thomason, Kennett, chairman, Jack Hunter, Sikeston, vice-chairman; drainage and flood control—E. A. Story, Charleston, chairman, David Barton, Catron, vice-chairman, and S. P. Reynolds, Caruthersville, chief advisor; education—Robert Foster, Sikeston, chairman, Maxwell Williams, Gideon, vice-chairman; feed, seed and grain—R. C. Davis, Charleston, chairman, Lyman Bowman, Sikeston, vice-chairman; finance and membership—W. P. Hunter, Sikeston, chairman, W. E. Smith, Caruthersville, vice-chairman; labor — Tom Maschmeyer, Lilbourn, chairman, W. C. Bryant, Dorena, vice-chairman.

Also, legislation — A. L. Story, Charleston, chairman, R. F. Greenwell, Hayti, vice-chairman; livestock—Wendell Choate, Dorena, chairman, T. A. Haggard, Steele, vice-chairman; policy—Charles B. Baker, Kennett, chairman, E. A. Story, Charleston, vice-chairman; production clubs—R. F. Greenwell, chairman, Don Thomason, vice-chairman; research—T. A. Haggard, chairman, H. D. Ficklin, Charleston, vice-chairman; resources and development — Raymond Lucy, Parma, chairman, J. F. Patterson, Caruthersville, vice-chairman; soil conservation—Roger Rhodes, Gideon, chairman, Nelson Tinnin, Hornersville, vice-chairman; taxation — Harry Campbell, Lilbourn, chairman, Floyd Gale, Parma, vice-chairman; and water policy—Crews Reynolds, Caruthersville, chairman, and J. P. Ross, Essex, vice-chairman.

Valley Ginnings at Peak In Last Week of July

Ginnings in the Lower Rio Grande Valley of Texas reached their peak during the last week of July, when 88,012 bales were ginned in the four counties.

The following week ginnings dropped to 72,388 bales. Through Aug. 4, the Valley had ginned 299,832 bales, as compared with 318,219 bales in the same period of 1954.

Observers believe that 75 percent of the Hidalgo County crop has been harvested, but that more cotton remains to be picked in Cameron. To Aug. 4, Hidalgo had ginned 149,457 bales, Cameron 104,458, Willacy 43,679 and Starr 2,328 bales.

Feed Control Officials To Meet in Virginia

The fourteenth annual convention of the Association of Southern Feed and Fertilizer Control Officials will be held at Hotel Roanoke, Roanoke, Va., June 28-30, 1956. Dr. M. P. Etheredge, Mississippi State Chemical Laboratory, State College, is president; and Bruce Poundstone, Kentucky Experiment Station, Lexington, is secretary-treasurer.

• Isotopes Are Tools In Lint Research

RADIOACTIVE ISOTOPES are the principal tools in current Oklahoma research on methods of determining the rate of growth of cotton fibers and also on the mode of feeding of the boll weevil.

In the first case, radioactive phosphorus as well as radioactive sulfur were introduced into cotton plants through the root system at the time of flowering. Bolls were removed over a period of four days following flowering. Paraffin sections of these "hot" bolls were prepared, mounted on glass slides, anf aftre removal of the paraffin were coated with a liquid photographic emulsion. After a suitable length of time of exposure of the photographic emulsion to the emanations from the radioactive chemical present in the boll sections, the slides were developed and examined to determine where the radioactivity localized in the developing cotton fibers. These emulsion and plant tissue bearing slides, or autoradiographs, are being studied to ascertain what tissues have taken up the radioisotope and for studying the rate of growth of the new fibers.

For the boll weevil studies, radioactive phosphorus and radioactive sulfur were introduced into square-bearing cotton stems. Boll weevils were allowed to feed upon the squares until the animals showed a high amount of radioactivity in their bodies, after which they were removed and transferred to other stems bearing squares and bolls and allowed to feed there until well-defined feeding punctures had been made. After removal of the weevils and their return to isotope-tagged plants, sections of the infested parts with their contained feeding punctures were cut out and autoradiographs were made as described above. The first set of autoradiographs show that some of the radioactive chemicals picked up from the "hot" squares has been transferred to the untreated bolls. This suggests that the weevil is capable of transferring some substance from its own body which may result in premature dropping of the cotton boll.

The research is conducted under a project held jointly by Dr. J. M. Green, agronomy, Dr. R. M. Chatters, botany, and Stanley G. Diehl, botany. Diehl is a graduate student who is doing his Ph.D. research on the feeding habits of the boll weevil.

Aug. 17 and 24 Field Days Set at Harbers Farm

Harbers Farm, West Point, Texas, which has received national recognition for modern soil conservation and farming methods, will hold field day demonstrations on Aug. 17 and 24. Soil Conservation Service and Extension Service representatives will participate in a program on field preparation, planting and fertilizing methods, insect control, defoliation, cotton stripping and stalk destruction.

Clinton Harbers and his brother, Ted, will be hosts. Clinton, whose activities have been the subject of previous articles in The Cotton Gin and Oil Mill Press, has received awards from the Fort Worth Press, Hoblitzelle Foundation and Texas and U.S. Junior Chambers of Commerce for outstanding achievements.

Progress of the Crop

CONSISTENTLY FAVORABLE cotton prospects during July were confirmed by the Aug. 1 USDA report (see Page 51), forecasting another record high yield per acre. Trade sources had guessed the crop about one million bales under the government's indicated 12,728,000 bales. The U.S. yield forecast of 367 pounds per acre is 26 pounds above 1954's record high.

Conditions during the past two weeks may have been slightly less favorable, and surely more spotted, for cotton than July was; but progress on the whole has been about normal for August. Moisture over most of the Belt is adequate, and parts have had too frequent showers or rains for effective control of weevils and other pests which have been building up. Growth is very rank in many parts of the Cotton Belt, and the National Cotton Council urges growers to get ready for chemical defoliation. The need for following recommendations carefully is emphasized. Defoliation not only will aid harvesting, the Council pointed out, but can also help curtail insect damage. Extreme care in timing is essential for best results.

Weevils and bollworms were on the increase in many states, and the need for protecting the crop during August was stressed by entomologists. The threat of weevils and boll rot appears the greatest in several seasons. Damage from other pests has been spotted and generally not alarming.

ALABAMA had showery weather and shedding of squares and bolls was prevalent in some areas. Weevils were numerous in southern counties and some farmers were defoliating to speed up opening and reduce insects. Rains and boggy soil hindered poisoning. Red spiders and leafhoppers increased.

Cotton in **ARIZONA** is about two weeks late, and the USDA forecast is for an average yield of 936 pounds per acre, about 100 pounds under last year. Rainy, windy weather hampered insect control. Bolls are beginning to open.

ARKANSAS reported heavy fruiting, and insects increasing. Showers interrupted control work, and moisture ranged up to two inches in northern areas. Cotton progress generally has been good and Aug. 1 prospects indicated a total crop larger than last year's and about average, despite reduced acreage.

Considering **CALIFORNIA** cotton's late start, prospects are good, although acre yields may be about 70 pounds below last year's 806 pounds per acre. Warm weather has encouraged bollworms, but they're not critically numerous. Defoliation is under way.

Yields in **GEORGIA** are expected to be well above those last year and about 60 pounds above the 10-year average (253 pounds per acre). Growth and condition of cotton have been good, but stalks are too big and leafy in some counties. Weevils have been moderately heavy in localities and caused some deterioration; but farmers have been able to poison without too many showers.

Too much rain in **LOUISIANA** has made cotton put on excessive growth and hindered poisoning for weevils. Aug. 1 prospects, however, were for a slightly better acre yield than in 1954.

MISSISSIPPI expects a crop up to last year's, with a 40-pound-per-acre higher yield. Cotton generally made good progress, except where too much rain fell in southern and western areas. Plants were fruiting well, and poisoning was being increased to meet the larger weevil infestation.

A yield well above average is indicated in **MISSOURI** but total production, forecast at 385,000 bales, will be below 1954. Crop progress has been fair to good. Grasshoppers continued to bother many farms.

NEW MEXICO expects the smallest crop since 1947, with the exception of the 1950 crop; but cotton is making fair to good progress and the indicated yield will be well above average, although below last year. Much of the state has had rain, and insects are hurting some cotton.

Boll weevils were increasing in **NORTH CAROLINA** and were becoming a serious threat to a crop which otherwise would make an above-average yield. Farmers were warned of the need for active control to protect a late crop. Bacterial blight was bad in spots.

Cotton in **OKLAHOMA** made favorable progress and yield prospects are well above the average and last year's. There were showers and locally heavy rains, favoring weevil increase. Bollworms also were increasing and farmers were warned of the importance of checking both pests. Cotton was maturing rapidly where no rains fell.

SOUTH CAROLINA cotton was generally in good condition, but the crop is at its critical stage. Frequent showers encouraged development of weevils and boll rot, and there was considerable rank growth. Hurricane Connie was an undetermined factor as this report was printed.

Cotton looks good in **TENNESSEE**, but the crop is late. Warm, dry weather favored control of weevils. A yield slightly better than in 1954 resulted in a 500,000-bale forecast.

TEXAS' prospect is for the highest acre yield on record (since 1866), and a crop only about one percent below last year although acreage for harvest is down one million acres. The outlook is better than a year ago in most crop reporting districts, but far below in some, notably around Corpus Christi.

Cotton generally developed favorably the past two weeks; but some areas were too dry, some too wet and some localities suffering from numerous weevils or other pests. Premature opening and blooming in the top in dry areas contrasted greatly with the heavy growth, insect increase and difficulty in poisoning where showers fell. Despite the weevil build-up, cotton made good progress in the northern part of the state, Plains and Trans-Pecos. Some northwestern areas want rains, but fairly general rains over much of the Plains improved the dryland outlook.

Harvesting moved steadily northward and most Blackland counties have reported their first bales. Ginning soon will be in full swing. About 313,000 bales were ginned to Aug. 1, mostly in Valley or nearby counties.

• Oklahoma Plans Many Cotton Field Days

OKLAHOMA County Agents have established more than 60 package demonstrations on cotton, and many pre-harvest and harvest field days are planned this fall, J. D. Fleming, Oklahoma City, secretary of the state's ginners' and crushers' associations, has been notified.

Other Oklahoma activities on cotton have included cotton classing schools, at which slides of the recent trip for Future Farmer and 4-H Club cotton contest winners were shown.

Marshall Miller Stationed At Southern Laboratory

Marshall E. Miller has been employed as an agricultural economist by USDA. He is stationed at the Southern Regional Research Laboratory in New Orleans, and will work closely with the Southern Utilization Research Branch, which includes the Laboratory and six field stations.

Miller was born in Alexandria, La., and is a graduate of Louisiana State University, where he received B. S. and M. S. degrees with a major in agricultural economics. He has been with the sugar division of the USDA Commodity Stabilization Service. Before his employment with USDA in 1950, Miller was a member of the staff of the department of agricultural economics of LSU for two years. He is the author of several marketing research reports on sugar and related products, and fruits and vegetables.

Rothe Re-elected President

FREDERICK ROTHE, vice-president of Linea Sud Americana, Inc., and Garcia and Diaz, Inc., was re-elected president of the New York Produce Exchange at the ninety-fourth annual election.

"Who Gets Water"

(Continued from Page 18)

other land has gone out of production by abandonment, for industrial and urban expansion, development of suburban areas, highways, airports, and other assorted uses. For the foreseeable future we must produce our agricultural products from cropland now in use.

"How have we been able then to have such abundance of food these past 35 years as to require restriction of production for some crops? First, about 75 million acres for food production resulted from the disappearance of over 20 million head of horses and mules. Agriculture became mechanized. Crops produced for export a little over three decades ago used approximately 60 million acres of cropland as against some 40 million acres or less in more recent years.

"A second and more significant fact has been the increased crop yields per acre and higher yields of food from improved livestock, including poultry.

"The geographic frontier is long gone —the vertical frontier of science and technology is beginning to unfold. As it unfolds, as we seek more production from the same acres, agricultural water becomes increasingly important.

"Competent authorities maintain that any program to increase per acre yields of crops in the humid area of our country—that part generally east of the Mississippi River—must include irrigation. To produce a bushel of corn requires about 10,000 gallons of water—a bushel of oats about 7,000—a ton of cured alfalfa hay about 200,000 gallons," Peterson pointed out.

The Assistant Secretary also called attention to the increasing water requirements resulting from greater use of improved seed and the application of more fertilizer per acre.

• **U.S. Needs Will Double** — Total U.S. withdrawal of water has doubled every 25 years since 1900, he said, and it is thought that the total water supply will need to be doubled again in the period 1940-75.

In efforts to solve the problems that will arise, basic concepts should be kept in mind, he cautioned.

"Government will continue to play a significant role . . . let us see to it that this role is a cooperative effort between people and their government—local, state and federal.

"Let us think first in terms of human resources. Let us seek an economy which is vigorous, dynamic, prosperous and free, and where there is real opportunity.

"This is in harmony with the spirit that built and makes America," Peterson added. "The people on the land, and all of us who depend upon them, are vitally concerned that agriculture shall be proseprous, free and strong."

He called upon agriculture to develop so as to "get in gear with the high adaptability of our total economy." The USDA spokesman also said that the real interest of agriculture lies in the broadest possible markets, rather than in current restricted production.

"Agriculture is moving forward on two fronts of great importance," he continued. "On the one hand other resources are being substituted for land-power and technology. The increases in mechanical power, the expanded uses of fertilizer and machinery, pesticides, improved crop varieties and other technological changes have made possible our increased capacity to produce without the use or development of vast additional acreages which are unobtainable. As this vertical frontier of science is further penetrated, it will continue to make a major contribution toward providing the food, fibers, and materials for industrial use necessary for our growing population.

"For the maximum contribution to be made there must be developed additional water for use by agriculture. This mechanical and technological revolution in agriculture has also been taking place in transportation, processing, and distribution. Hence our costs of doing business have increased substantially.

"The application of the findings of science, assisted by available water, keep these costs within the capacity of producers to carry and at the same time earn incomes necessary to maintaining our high standards of living. That is why farm leadership has placed increased emphasis on efficiency of production, distribution, and on the wise use of our agricultural resources. As we achieve greater efficiency in the use of land, labor, and capital, our costs will come down to the benefit of ourselves and those who use our products.

"We have come to recognize that the end purpose of conservation is the welfare of the people, both present and future. There is rapidly developing a greater teamwork in our approach to problems of our conservation. This is particularly true with respect to water developments.

"Now, in a land as large and diverse as the U.S., it is essential that those of us with public responsibilities shall understand not only the needs and desires of our people but receive from people constructive guidance in developing practical means of meeting those needs. All of us have a responsibility to keep informed and to understand the basic issues and problems in this work," Peterson concluded.

• Rice Hulls Used in Building Material

BRICKS from rice hulls may prove to be a valuable material for building structures that will resist atomic radiation, research workers at Louisiana State University believe. About 90,000 tons of rice hulls yearly now are largely wasted.

Assistant Professor John H. Hough discovered that when burned, rice hulls turn into a mineral state that is 94.5 percent silica. The ash flakes are porous and contain numerous nonconnecting cells which make them good insulators.

A small tool shed, which could serve as shelter from radiation, has been built on the LSU campus for local tests by the Louisiana Civil Defense Agency.

"This type of structure may solve the problem of finding economical, durable and effective shelters against radiological fallout," said State Civil Defense Director Francis A. Woolfey.

Hough said the new brick, with burned rice hulls used as a substitute for sand, actually will gain in strength over a period of years and tend to become like soft sandstone.

■ **S. J. VAUGHAN, JR., past president of National Cottonseed Products Association, produced the first 1955 bale of cotton in Hill County, Texas, because his tenant practices early planting and early season insect control.**

Central Cotton Oil Co. Has New Equipment

E. G. McKenzie, president of the Central Cotton Oil Co., Macon, Ga., has announced an expansion program in which the company has replaced its hydraulic pressroom with a completely new installation of mechanical screw presses.

The new pressroom equipment includes four of the latest type 100 horsepower screw presses equipped with 22" extension cages. Mounted directly over the presses are two new four-high 100" diameter cookers. Each cooker is mounted over and supported by two screw presses feeding the meats directly to the presses.

French Oil Mill Machinery Co., Piqua, Ohio, are manufacturers of the newly installed equipment.

Agronomists To Tour California Valley

Agronomists and soil scientists, meeting on the West Coast for the first time, will see a cross section of California's agriculture—field crops in the northern area, the University's range research field station at Hopland in Mendocino County, and soil and vegetation in the Sierras.

The tours will be part of the national meeting of American Society of Agronomy and Soil Science Society of America on the University of California campus at Davis, Aug. 15-19.

Pendleton

(Continued from Page 22)

Pendleton is assistant cashier of the First National Bank of Munday, and Hal is with the Internal Revenue Department in Dallas.

There are eight grandchildren. H. A., Jr., has Hap III, aged 6. Maxine: Kay, 12, and Carol, 17. Paul: Paula, 2, and Jan, 10. Hal: Sandra, 11, Hal, Jr. (Rusty). 6, and Pat, 4.

Another member of the family of whom Hap is very fond is his brother-in-law, Henry Mason, of Wichita Falls. Henry shares Hap's ownership of their cottage on Lake Kemp and their families spend many happy hours together there.

Hap has been a member of the board of stewards of the Methodist Church for a number of years and was also on the board of trustees. During the first World War he was secretary of the first Selective Service Board of Knox County and also served as a member of the Draft Board during World War II, and his three sons were all in the service. He is a Scottish Rite Mason, 32nd Degree, a member of all the Masonic fraternities from Blue Lodge on up through 32nd Degree, and is a Shriner. He has belonged to the Lions and Rotary Clubs and is at present a member of the chamber of commerce.

Looking back over the years, Hap can see many changes that have taken place in our industry.

"Yes, there have been many changes," he says. "And all for the better, I'd say. In ginning I guess the principal change has been in improved machinery. And of course the ginners are considerably more skilled than they used to be . . . they have to be. Another change that I like is that of the increasing emphasis on safety consciousness."

Classified Advertising

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FOR SALE—2 French screw presses, complete with motor starters, 5-high ring stack cookers, individual steam traps, pressure gauges, etc. Only about 50,000 bu. soy beans have been processed through each since new. May easily be converted to cottonseed crushing. $17,000 for both units. Present replacement cost about $52,000.—Fayette Soybean Mill, Fayette, Iowa.

FOR SALE—Anderson Super Duo expellers, each complete with 14" conditioner and 36" cooker; rolls, cookers, 176 and 141-saw Carver linters, all completely rebuilt. Butters milling machine. Double box linter press. Filter presses, attrition mills. 54" seed cleaner. No. 153 separating unit, No. 136 double hull beater.—Sproles & Cook Machinery Co., 151 Leslie St., Telephone PR-5958, Dallas, Texas.

FOR SALE—Complete five (5) press (hydraulic) cottonseed oil mill.—Strader-Hughston Co., Route 7, Coit Road, Phone FOrest 8-5883, Dallas, Texas.

OIL MILL EQUIPMENT FOR SALE—Rebuilt twin motor Anderson high speed expellers, French screw presses, stack cookers, meal coolers, fourteen inch conditioners, filter presses, oil screening tanks, complete modern prepressing or single press expeller mills.—Pittock & Associates, Glen Riddle, Pa.

FOR SALE—True Line gummer for 106 saw cylinder; No. 143 Bauer drag elevator 15'6" centers; 30" Chandler bar huller; home made beater; two 12-ton French accumulators; gas burner for steam boiler; coupling type clutch, 35 H.P.—2-7/16 bore; 10 KW-DC generator; 24 ton Howe motor scale 28' long; 80 ton Fairbanks-Morse RR scale, 40' long, in good condition; one analytical scale; two fuel oil pumps; one Sepsco seed loader, 22' long; over two hundred feet 16" conveyors and some 12", 6" and 4"; sprockets, shafts, steel split pulleys, etc.—Brady Cotton Oil Co., Paul Klatt, Secretary, Brady, Texas. Phone 2322.

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100	Slipring	900		1189
100	Sq. Cage	1200		758
100	Sq. Cage	900		879
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FOR SALE—Seven intermediate cooker rings and bottoms complete with sweeps and fittings for 72" French screw press stack cookers.—Address inquiries to Sweetwater Cotton Oil Company, Sweetwater, Texas.

FOR SALE—Filter presses; screening tanks; single and twin motor Anderson Super Duo expellers, with conditioners; several extra 36" cooker dryers and conditioners. All steel linter baling presses; 141-176 saw linters; seed cleaners; No. 153 separating units; bar hullers; lint beaters; stack cookers; rolls; hydraulic press room equipment.—V. A. Lessor & Co., P. O. Box 108, Fort Worth, Texas.

Gin Equipment for Sale

CAN now make prompt delivery of electric cotton samplers. Order yours immediately. Price $145. —Bill Smith, Box 694, Phones 47847 and 49626, Abilene, Texas.

FOR SALE—Three Mitchell Standard Units, Three 70 saw Cen-Tennial stands. Two 35" Sturdivant fans. One #2 Jacob mechanical tramper. Priced very low.—J. F. Suttle, Jr., J. F. Suttle Estate, Suttle, Alabama.

SPECIAL BARGAINS—Gins: 2-80 saw Murray glass front, loose roll. 5-80 saw Model "C" Continental brush with V-belt drive. 6-80 saw Model "C" Continental air blast with 30 fronts. 6-70 saw Continental air blast. 4-80 saw Lummus air blast. Continental, Mitchell, Lummus and Hardwicke-Etter feeders, in practically all sizes. One 4-80 Lummus and one 5-80 Mitchell conveyor distributors. Steel Cleaners: One 4-cylinder and one 6-cylinder 50" Continental incline, two 52" 6-cylinder Murray horizontal with V-belt drive, one 7-cylinder 50" Wichita and one 16-unit Lummus thermo. Steel Separators: One 48" cleaning type and one 48" type "M" Lummus, two 50" Continental with back geared vacuum, three 52" Murray VS, and one 52" Stacy. Steel bur machines: One 10' Lummus and two 8' Murrays with inlet and return conveyors and troughs. Driers: Two late type Murray Big Reel, one practically new two trough Continental with heater, as well as new Government type tower driers in all sizes. Steel condensers: One 48" Lummus up draft. One 48" and one 72" Continental side draft, one 60" Continental up draft, one 72" down draft and one 72" up draft Murray. Presses: One Murray PX and one Continental Paragon steel bound. Steel Trampers: Murray, Cameron, Lummus and Continental E.J. Press pumps: Murray, Lummus, Continental and Beaumier. One 24' 9" Lummus and one 18' 12" rotor lifts. 10 to 100 H.P. electric motors. New cyclones and rock and boll traps. New fans which meet required specifications for pink bollworm trash and hull disposal. For your oldest, largest and most reliable source of guaranteed late model, used and reconditioned gin machinery contact us. Qualified graduate engineer to assist you with any of your machinery problems at no obligation. Call us regarding any machinery or complete outfits you have for sale or trade.—R. B. Strickland & Co., 13-A Hackberry St., Telephones: Day 2-8141, Night: 3-7929, Waco, Texas.

FOR SALE—5-80 saw air blast ball bearing Lummus gin stands, ribs and saws in good shape, $50 each. One 40" ball bearing Lummus fan in good shape, $50. One 1000 gallon propane tank with all fittings, gauges and vaporizer, $175. —J. U. Rollins, Hamilton, Ala.

FOR SALE—Conveyor distributors: One 5-80 Lummus, one 5-70 Lummus, one 5-80 Mitchell. Bur machines: 2-10' steel Lummus with 5-cylinder built-in after cleaners in each. 1-14' wood Hardwicke-Etter with long and short by-pass conveyor. Lint cleaners: 5-80 Murray saw type, reconditioned, like new. One 80-saw Continental, 8-80 loose roll ABDC Cen-Tennials, 4-80 DC model C brush Continentals. Huller-feeders: 5-70 Lummus MEF, one flat belt Super Mitchell, 4-60 and 4-70 flat belt Standard Mitchells. Cleaners: One 6-cylinder Continental airline, like new. Two 5-cylinder 52" V-drive Murray inclines, like new. Two 4-cylinder incline Continentals. Separators: One Stacy, 1-48" Lummus, 1-70" Lummus, 1-52" Gullett. Condensers: 1-60" Continental, side-discharge, 1-72", side-discharge. 1-70" Lummus, up-discharge. Presses: One steel-bound Murray, one steel-bound Gullett. Driers: One Murray Big Reel, 5-80 Mitchells with fans and burner. Fans: One double 45" Lummus, one double 30" Lummus. Several singles 40" and 45". Pumps: One Lummus, one Continental, one Murray. Seed lifts: 1-12" rotary, one steel-cased bucket. Also shafting, sheaves, split pulleys, conveyors, ball bearing floor stands, BB hangers.—Bill Smith, P. O. Box 694, Phones: 47847 and 49626, Abilene, Texas.

FOR SALE—5-80 Murray gins, electric, irrigated, steel, $105,000, near Lubbock, will carry big loan. 5-80 Continental, on natural gas, irrigated, price $50,000, $15,000 cash. 4-80 Continental, electric, good crop, $25,000, $9,000 cash. Have three good ranches near Springer, New Mexico. Extra good grass, plenty water. Write for details.—W. T. Raybon, Box 41, Phone Porter 21605, Lubbock, Texas.

FOR SALE—Last call at these prices: 4-80 saw Lummus double moting gins with lint flue, $1,350. 3-80 saw Murray stands 6" mote conveyor, $600. 1-80 Hardwicke-Etter hot roll box stand, $575. 1-80 Murray stand roll-dump, $500. 4-80 Continental brush model 30 fronts with lint flue, $800. One EJ late model tramper, $800. One 4-80 Continental conveyor distributor, $700. One 60" Continental late model condenser, $700. One Murray steel-bound up-packing press, $575. One Lummus 72" cleaning separator,$375. 8-66" Mitchell Standard feeder-extractors flat belts, $800. 4-66" Mitchell convertible feeder-extractors V-belts, $900. One 160 H.P. Minneapolis-Moline gas engine, $500. One 150 H.P. Le Roi 8 gas engine, $1,500. One horizontal cotton press pump with 15 H.P. electric motor and drive, $350.—Strader-Hughston Co., Route 7, Coit Road, Dallas, Phone FOrest 8-5883.

FOR IMMEDIATE SALE—Because of his health doctors advise the owner of this excellent 4-90 Continental Gin he should get out of the state at earliest possible date. These gin stands and Super Champ Mitchell feeders were installed brand new this season. Le Roi and electric power, tower drier, large jembo, steel press. Ten year ginning average 3400 bales including years when area was not irrigated. Now all under irrigation and should gin 4000 and better every year. Owner willing to sacrifice. Take as little as $20,000 cash and give five years on balance. Call, write or wire.—M. M. Phillips, exclusive agent, Phone TE5-8555, Box 1288, Corpus Christi, Texas.

FOR SALE—Two-thirds interest in one of best gins in this part of country. Modern, plenty of cotton.—Box KD, c/o The Cotton Gin and Oil Mill Press, P. O. Box 7985, Dallas, Texas.

Equipment Wanted

WANTED—One up-packing single box baling press.—Roddie & Co., Brady, Texas.

WANTED—Good used 200 h.p. natural gas power unit. Prefer Le Roi model H2000.—W. Caplis, Box 1312, Shreveport, La.

WANTED—Twenty ton 24' or longer scale.—Carter Mfg. Company, Lake City, S.C.

WANTED FOR EXPORT—Two Anderson Super Duo Expellers, 36" cooker, cottonseed, 25-50 tons, 24 hours. Show serial number, specifications. fas. —S. Roger & Co., 120 Broadway, N. Y. 5, N. Y.

WANTED—All types of meal coolers, dehydrating drums and hammermills 150 h.p. and up.—Box MM, c/o The Cotton Gin and Oil Mill Press, P. O. Box 7985, Dallas, Texas.

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Personnel Ads

WANTED—Southeastern oil mill wants a superintendent. Must be capable, sober, and steady worker. Apply giving experience, age and references.—Box PH, c/o The Cotton Gin and Oil Mill Press, P. O. Box 7985, Dallas, Texas.

Power Units and Miscellaneous

FOR SALE—New and rebuilt Minneapolis-Moline engines, from 35 h.p. to 220 h.p., call us day or night for parts and service.—Fort Worth Machinery Co., 913 E. Berry St., Fort Worth, Texas.

FOR THE LARGEST STOCK of good, clean used gas or diesel engines in Texas, always see Stewart & Stevenson Services first. Contact your nearest branch.

FOR SALE—Two John Deere No. 8 cotton pickers. 1951 production. Excellent condition. Picked approximately 1200 bales each.—Albert E. Carter, Bill Carter Farms Co., 1310 Orchard Lane, Carlsbad, New Mexico.

FOR SALE—Electric motors, 440 volt, 3-phase: 1-20, 4-40s, 3-50, 2-75s, 1-100, 1-125, 2-150s, 1-200, and 1-75, 2300 volt. All motors with starting equipment. Engines: 1-340 h.p. twin General Motors. 1-210 h.p. butane and natural gas Minneapolis-Moline. 1-25 h.p. vertical boiler.—Bill Smith, P. O. Box 694, Phones: 47847 and 49626, Abilene, Texas.

FOR SALE—One mechanical cotton sampler manufactured as per Department of Agriculture's drawings, which includes sampling valve, square lint flue section, duct work for conveying sample, sampler condenser, and automatic packaging sample press. Immediate delivery, price $2500, f.o.b. our plant.—Write P. O. Box 170, Kearny, New Jersey.

FOR SALE—McIntosh Seymour diesel engine, 600 H.P., 6-cylinder. Complete with rope drive, sheave and takeup. Engine been maintained in good order. Operated the past season. Priced right.—Fidelity Products Mill, P. O. Box 1189, Houston, Texas.

FOR SALE—Twenty-four foot five ton scale.—Carter Mfg. Company, Lake City, S.C.

FOR SALE—60" dust collector; 7" elbow; #3 UX Jay Bee Mill with constant feed control and permanent magnet; 60 H.P., 3600 RPM, AC motor and starter. Above almost new, used 60 days. Reason for sale—Surplus. Sacrifice.—B & B Gin Company, Hallettsville, Texas.

Portales Valley Water Levels Are Declining

Water levels in the Portales Valley of New Mexico continued to decline last year, according to a report of U.S. Geological Survey and New Mexico's state engineer.

From January, 1950, to January, 1955, the decline amounted to more than 20 feet in a small area about six miles northwest of Portales. Around this area and extending along a narrow strip to about a mile east of Portales, water levels declined more than 18 feet during the five-year period.

From January, 1954, to January, 1955, water levels declined more than four feet in six small areas along the axis of the valley extending from about 10 miles northwest to about three miles southeast of Portales. However, the net declines during 1954 were less than those observed during 1953. The smaller declines may be attributed primarily to reduced pumping for irrigation as a result of above-normal precipitation during August, 1954, the report states.

From 1932, when water-level measurements were begun in the Portales Valley, to January, 1955, water levels declined more than 34 feet in an area of about 4.5 square miles extending from Portales to a point about four miles northwest.

• Conference To Hear Irrigation Panel

OPPORTUNITIES irrigation offers farmers to increase cotton yields and lower production costs will be analyzed by a panel of experts at the ninth annual Beltwide Cotton Mechanization Conference at College Station, Texas, Sept. 7-8-9.

The National Cotton Council points out that drouths in recent years have caused many cotton farmers to turn to irrigation in areas where they traditionally have depended on rainfall alone. The Council is sponsoring the mechanization conference in cooperation with the Texas A. & M. College System, Farm Equipment Institute, Cotton Belt land grant colleges, and USDA.

Specialists on the panel — scheduled the second morning of the conference—will discuss problems faced by farmers considering irrigation. Land leveling and drainage, water supply, kind of system, when and how much water to apply, fertilizer and other soil supplement needs, hazards involved, costs and returns—all are factors.

The program will review progress in irrigation research—particularly in the Rain Belt—and point up the necessity for further studies of immedate and long-range water supplies, sources and rights.

■ **GEORGE HALL, Western Cottonoil Co., is a member of two committees of El Paso Chamber of Commerce and a director of West Texas Chamber of Commerce.**

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"My ginning for 1954 amounted to over 1,200 bales and I conservatively say that I averaged $5.00 per bale more for the whole ginning than if I had not had the Moss."

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• Campbell Will Join Staff of Council

CARL C. CAMPBELL, who has been acting director of USDA's Foreign Agricultural Service cotton division, will become assistant director of the National Cotton Council's foreign trade division on Sept. 1.

Gwynn Garnett, FAS administrator, has announced the appointment of Robert C. Sherman as director of the cotton division to succeed Campbell. Born and reared on a Georgia cotton farm, Sherman has been with USDA since 1931.

Arkansas-Missouri Ginners Are Completing Meetings

Arkansas-Missouri Cotton Ginners' Association is completing the annual district meetings during the next two weeks, following a number of meetings held during July and August.

Future meetings include the following:

Dist. 9, Aug. 24—Pine Bluff, Oak Park Tavern.

Dist. 8, Aug. 25—England, Fishers Cafe.

Dist. 6, Aug. 26—Marked Tree, Ritter Park.

Dist. 5, Aug. 30—Newport, (Place to be announced).

Dist. 3, Aug. 31—Walnut Ridge, Chamber of Commerce.

Dist. 4, Sept. 1—Blytheville, Legion Hut.

Formula Feed Production Declines Five Percent

Manufactured feed production during the first half of 1955 was five percent under the same period in 1954. Total production of all types of manufactured livestock and poultry feeds for the first six months was 17 million tons, according to an announcement by the American Feed Manufacturers' Association.

Tonnage increased in some areas and in some specific feed types; however, the general trend throughout 1955 reflected a weakened market during all of the period except for June.

W. E. Glennon, AFMA president, reported 1955 production gains in the Southeast, Southwest and in the Mountain States.

Most significant gains in production involved beef and swine feeds. Beef cattle feeds showed a 43 percent increase and output of hog feeds and concentrates moved up 10 percent compared to the first half of 1954. Commercial broiler feed tonnage was off 13 percent, turkey feed tonnage was down 11 percent, and all other poultry feeds showed a 10 percent drop for the half year. Dairy feed tonnage was off 5 percent whereas miscellaneous feeds, including dry small animal foods and specialty products, were unchanged.

Poultry feeds constituted 59 percent of all feed output.

CCC Sales of Soybeans

CCC stocks of soybeans will be offered for sale on a bid basis for export, only, after Aug. 15, USDA has announced.

Approximately six million bushels of CCC soybeans, taken over under 1954 price support operations, had been sold to Aug. 5, leaving about 11 million bushels available for sale from inventory.

Killion Sees More Acreage Cuts, Loss of Markets

"More acreage cutbacks and permanent loss of foreign cotton markets is the price American cotton farmers will be forced to pay for the Administration's refusal to sell U.S. cotton competitively in world markets." Jim E. Killion, president of the Missouri Cotton Producers' Association, said after last-ditch efforts of cotton producer leaders and key cotton Congressmen conceded defeat of proposals designed to move additional cotton into export channels.

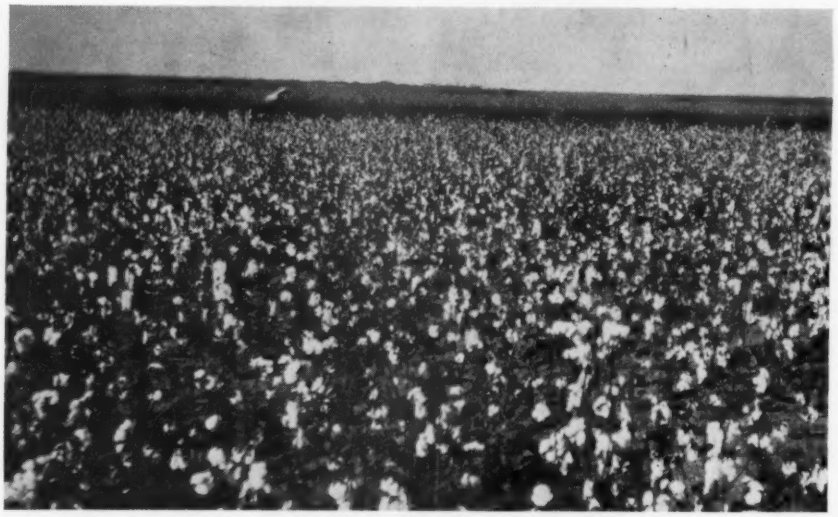
The cotton producer's statement came after a White House conference attended by more than 70 U.S. Senators and Representatives who called on the President at the White House Aug. 1, urging that the Administration remove the handicaps to movement of American cotton into world markets.

Value of Farm Exports Increases in 1954-55

U.S. farm exports were valued at $3,130,000,000 in the year ended last June 30, USDA estimates. This is seven percent more than the 1953-54 total and 11 percent more than in 1952-53.

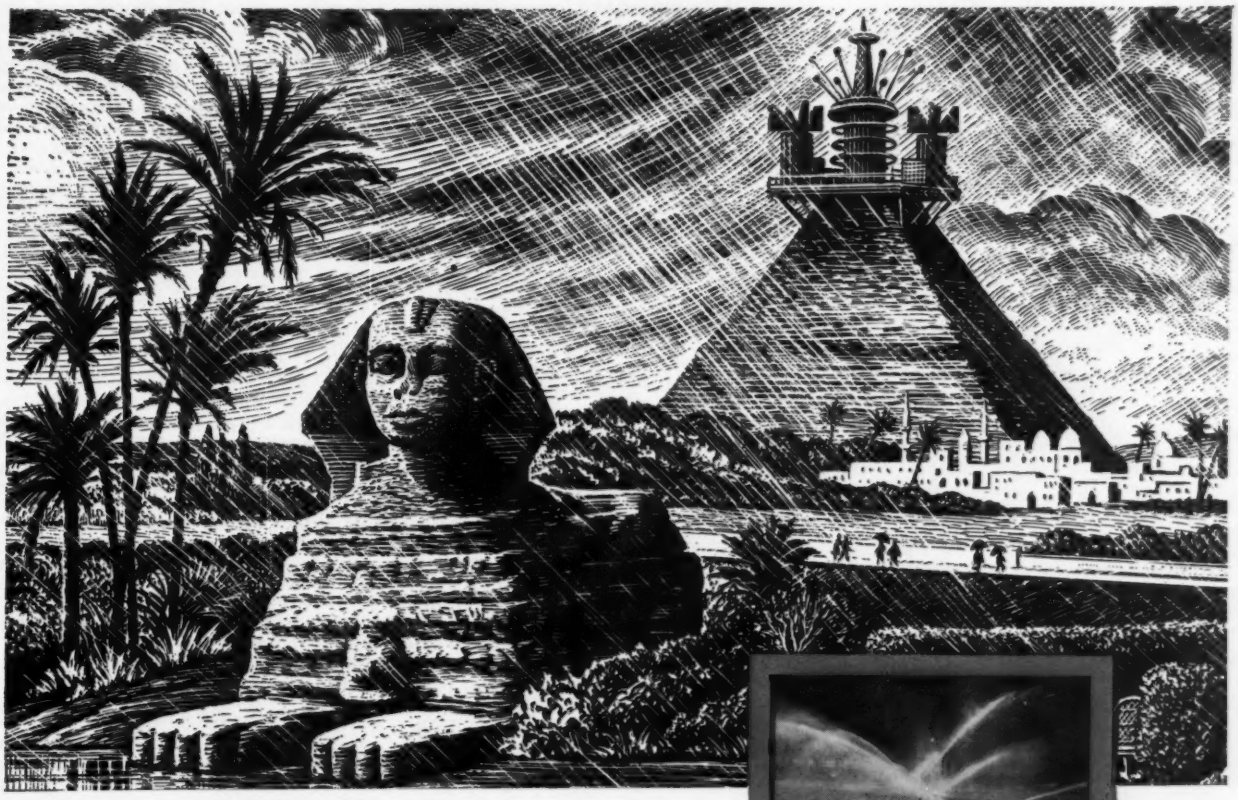
Half of total export value gain in 1954-55 was due to fats and oils. Value of exports of vegetable fats, oils and oilseeds in fiscal year 1954-55 approximated $300 million, 26 percent larger than in 1953-54. Principal gains were in cottonseed oil, soybeans, and flaxseed.

Terracing Cotton Land Pays



COTTON producing 441 pounds of lint per acre grew on land that was contoured and terraced to prevent runoff and erosion at Spur, Texas. An excellent "bottom season" of moisture at planting time was largely responsible for the high yield. The above picture with accompanying information appeared in USDA Bulletin 767, Conservation and Utilization of Soil Moisture.

SIXTY-ONE pounds per acre was the yield on Spur Substation land with straight rows and no "bottom season" of moisture at planting time. The average runoff on the field pictured above has been 2.75 inches. USDA points out that the difference in these yields proves the value of reducing runoff and erosion. Over a 26-year period at Spur, the average yield per acre has been 117 pounds of lint on land farmed with rows up and down the slope; but land farmed on the contour with closed level terraces has averaged 188 pounds per acre, or 71 more pounds per acre per year.



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In 1882 the French lithographer Albert Robida predicted a startling development in rain generating devices. A large rain generating machine would be installed atop the pyramid of Cheops. The rain created by it would turn the Sahara Desert into a fertile flower garden by 1952.

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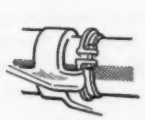

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• Cotton on the Spot, Despite Progress

COTTON is in a tight spot, despite the progress that has been made by the industry in the past two decades, USDA Assistant Secretary Earl L. Butz recently told a Mississippi Farm and Home Week audience at State College.

"I do not mean that the outlook for cotton's future is dark," he explained, "cotton prices have been fairly good and the industry has greatly increased its efficiency." After discussing the supply situation of a carryover of about 11 million bales on Aug. 1, 1955, the USDA representative said:

"Such a carryover is almost 30 percent more than our domestic mills consumed during the entire 1954-55 marketing season. Moreover, these stocks would be only about 1.3 million bales less than our domestic mill consumption of cotton plus exports. The national marketing quota for the 1955 crop has been set at 10 million bales.If production equals this quota and if we receive our normal cotton imports, our supply in 1955-56 will be close to 21.5 million bales, or about 75 percent larger than the 1954-55 disappearance."

• **Must Expand Markets** — "The one thing that stands out today in our cotton picture, is the demonstrated ability of our efficient growers to provide more than enough cotton to meet domestic and foreign demand at current prices," Butz said. "If the efficiency of cotton production continues to improve, the market demand can be met from fewer and still fewer acres. But if farmers are to sell their output of cotton from increasingly efficient production operations, then it is obvious that larger markets for U.S. cotton will have to be developed. The question is what can be done to expand the market for our cotton.

"There are two main segments to the market for our cotton—domestic mill consumption and exports. Our domestic mill consumption of cotton has expanded from an annual average of 6.9 million bales during the 1935-39 period to an average of about 9.3 million bales in 1950-54. Most of this increase resulted from the growth in U.S. population. During the last five years domestic mill consumption of cotton per person averaged about 28.8 pounds per year, or only about 3.3 pounds per person more than in the 1935-39 period.

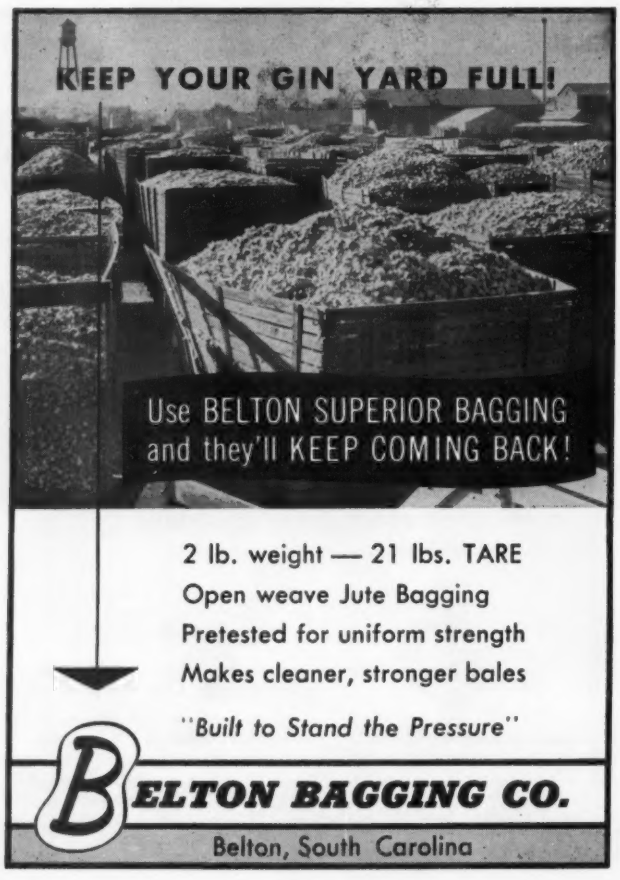
"The combination of rising synthetic fiber consumption and higher cotton prices has kept the gain in U.S. cotton consumption per person considerably below the level which probably would have otherwise prevailed. In other words, high price supports for cotton have discouraged added domestic consumption. They have channeled cotton into CCC, which this fall will have about eight million bales. This constitutes a serious cloud over the cotton situation, and necessitates the severe acreage curtailments you are experiencing today.

"Exports have been following a downward trend for some time. From an annual average of 5.3 million bales in 1935-39, U.S. cotton exports dropped to an average of about four million bales in the 1950-54 period. This is a striking decrease, particularly when we consider that foreign population increased about 340 million from 1938 to 1954 and that consumption of cotton, wool, and rayon and acetate, all taken together, increased by about one pound per person over the same period. Most of the gain in fiber consumption per person was taken up by synthetic fibers, since cotton consumption per person abroad was only about 0.3 pound higher in 1954 than in 1938, and wool consumption remained about the same.

"Even though cotton consumption per person did not show much gain, total foreign cotton consumption rose by about 23 percent from 1938 to 1954, primarily because of the increase in population abroad. The increase in over-all foreign consumption, however, has been more than taken up by increases in world cotton production.

• **Foreign Crops Increase** — "Over the years there has been a tendency for the acreage planted to cotton in foreign countries to increase by about one percent a year regardless of cotton prices. Our studies show, however, that on top of this general tendency, a rise of one percent in cotton prices tends to bring about a further increase in foreign cotton acreage by about 0.2 percent in the following year. This important fact indicates the extent to which larger cotton production abroad has been stimulated by U.S. cotton prices which, expressed in constant dollars, increased about 40 percent between 1935-39 and 1950-54.

"It has become abundantly clear that for both our cotton exports and domestic consumption, recent U.S. price support levels have worked to hinder the expansion of markets for the cotton we produce. It is true, of course, that our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industry promotion, smart styling, and improvements in the quality of our cotton textiles have helped cotton hold and even gain in some end uses. The fact remains, however, that competitive prices for cotton are still highly important in obtaining larger domestic and foreign markets for the output of our efficient cotton farms."

• **We Must Compete** — "Because of the competition we face from synthetic fibers at home and abroad and from expanding foreign cotton production, we urgently need to make our cotton competitive both from the standpoint of price and quality. Being competitive in the market does not mean that we have to be aggressive in pushing down world prices or using fire-sale methods. We cannot afford to follow such a course because, in the final analysis, it would hurt both producers and processors in our cotton industry," the Assistant Secretary said.

"To meet the situation, we need to place greater emphasis on improving our selling and on supplying better quality cotton at fair prices. To continue marketing cotton on a fully competitive basis in both domestic and foreign outlets, we need to find ways of lowering the cost of our cotton still more by further increasing production and marketing efficiency. More research and related work will be required to keep our cotton industry ahead of its competitors at all times. We always must be able to supply the kind and quality of cotton when it is desired and at a competitive price that is fair both to buyer and seller. We must sell our cotton to people—not to government. It is people—not government—that constitute a lasting and permanently profitable market for our product," he added.

"The cotton problem that confronts us at this time presents a challenge to the common sense and ingenuity of all who are genuinely interested in the long term welfare of this great industry. The position of cotton in the South can be strengthened very materially for the future if we are willing to face the bold facts and deal realistically with the problem.

"Helpful in this connection is the fact that the South is no longer wholly dependent on a one-crop system of farming. There is now greater diversity in southern agriculture, and a vast industrial expansion has taken place. These developments must be further stimulated and encouraged since they will afford more employement opportunities and lead to better living conditions for the people. It is in such a setting that cotton is finding its permanent place in a diversified southern agriculture so that it may contribute even more to the strength of the over-all economy.

"The people of the South have taken on the job of transforming their problems into opportunities. The progress they have made to date foreshadows the gains that lie ahead."

Mr. and Mrs. J. R. Mays, III Are Married at Memphis

Mr. and Mrs. John Robert Mays, III, were married June 29 at Grace-St. Luke's Episcopal Church, Memphis. The bride is the former Ruth Sherman Boulware, daughter of Mrs. Lula Ruffin Boulware and Joseph Earle Boulware; and the groom is the son of Mr. and Mrs. J. R. Mays, Jr., who are widely known throughout the oilseed processing and chemical industries.

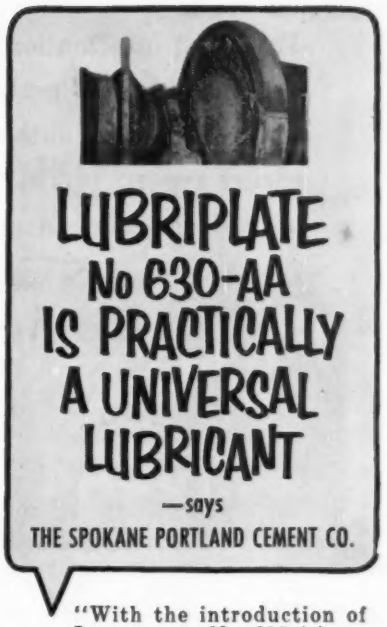
The couple will live in Delicias, Mexico, where the groom will be associated with Cook & Co., a cotton firm.

August 1 Cotton Report

A U.S. cotton crop of 12,728,000 bales of 500 pounds gross weight is forecast by USDA on the basis of Aug. 1 conditions. This compares with 13,696,000 last season and the 1944-53 average of 12,952,000 bales. The 16,636,000 acres for harvest are based on the estimated acreage in cultivation July 1 less average abandonment from natural causes. Cotton was harvested from 19,251,000 acres in 1954. Indicated yield per acre is 367 pounds, or 26 pounds above the previous record-high yield produced in 1954. Yield per acre prospects are very good in all states and exceed those of last year in all except New Mexico, Arizona and California. Exceptionally high yields were realized in these Far Western States in 1954. Aug. 1 condition indicates an American Egyptian crop of 45,700 bales of 500 pounds gross weight. The 1954 crop yielded 42,100 bales of this extra long staple cotton and the 1944-53 average was 29,600 bales. Cotton ginnings for the U.S. were reported by the Bureau of the Census at 312,984 running bales ginned from the crop of 1955 prior to Aug. 1, compared with 388,229 for 1954 and 345,860 for 1953. Practically all ginnings to Aug. 1 are in South Texas.

State	Acres in cultivation July 1, 1955 less 1945-54 average abandonment [1]	August 1 condition			Lint yield per harvested acre			Production [3] 500-lb. gross wt. bales		
		Average 1944-53	1954	1955	Average 1944-53	1954	1955 Indicated Aug. 1 [2]	Average 1944-53	1954	1955 Indicated Aug. 1
	Thousand acres	Percent			Pounds			Thousand bales		
N. Carolina	469	79	82	89	334	319	409	492	364	400
S. Carolina	721	76	67	78	312	288	316	692	501	475
Georgia	878	72	62	80	253	286	314	695	612	575
Tennessee	572	77	77	87	360	405	420	565	548	500
Alabama	999	74	71	83	286	298	360	908	728	750
Mississippi	1,690	77	84	89	341	384	426	1,693	1,571	1,500
Missouri	382	76	84	87	368	478	484	358	450	385
Arkansas	1,438	76	77	91	338	380	421	1,386	1,351	1,260
Louisiana	609	73	77	81	331	399	406	591	572	515
Oklahoma	795	75	65	86	160	151	208	390	293	345
Texas	6,734	75	73	79	188	245	278	3,388	3,940	3,900
New Mexico	180	91	95	90	500	743	627	217	316	235
Arizona	354	93	97	89	598	1,039	936	481	911	690
California	754	92	97	87	631	806	732	1,048	1,487	1,150
Other states [4]	61	78	80	85	283	367	376	47	52	48
U.S.	16,636	77	78	84	279	341	367	12,952	13,696	12,728
American-Egyptian [5]	43.1				357	589	509	29.6	42.1	45.7

[1] From natural causes. [2] On acres in cultivation July 1 less 1945-54 average abandonment. [3] Production ginned and to be ginned. A 500-lb. bale contains about 480 net pounds of lint. [4] Virginia, Florida, Illinois, Kansas, Kentucky and Nevada. [5] Included in state and U.S. totals. Grown in Texas, New Mexico, Arizona and California.



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The latest information on ridding cotton fields of a major nuisance is outlined by an authority whose earlier reports in The Press were of wide interest to our readers.

How You Can Kill Johnson Grass

By H. E. REA
Texas Experiment Station

H. E. REA, Texas Experiment Station, is recognized as a leader in weed and grass control research.

A SQUIRT of oil to the lower one-fourth inch of a tender second growth Johnson grass stem will kill it to the ground. Some of the oil will seep down around the roots and kill them to a depth of several inches. Repetition of the oiling practice at intervals of 7 to 10 days, and before six inches of regrowth occurs, will eradicate the grass in a single season. Four to six oilings per season usually reduces the stand of established Johnson grass 95 to 99 percent.

The oil will kill crop plants but it is easy to crown-oil Johnson grass in row crops with only occasional crop injury. This method of control is described and illustrated in Texas Extension Bulletin 808. Other methods of controlling Johnson grass are discussed in Texas Extension Leaflet 174.

• **Cost $7 to $15 per Acre** — Extensive use is being made of crown-oiling, and all other methods, to get rid of Johnson grass in cultivated fields both on the A. & M. Plantation at College Station and on the Bluebonnet Farm at McGregor. The A. & M. Plantation has been getting rid of scattered infestations in cotton at the rate of 250 to 350 acres per year during the past two seasons. Costs ordinarily have been from $7 to $15 per acre. Costs at McGregor have been somewhat lower.

Oils of the naptha type, commonly sold for dry cleaning and for thinning paint, are highly effective for the crown treatment of tender second growth Johnson grass under a wide range of weather conditions. However, even the naphthas will not kill old hard grass stems. Tender grass must be treated. Diesel fuel oil will kill young grass during the hot portion of the season but is not reliable for use during early spring. A mixture of one-half naphtha and one-half diesel fuel oil has given excellent results under a variety of conditions during the past two seasons and is extensively used on the A. & M. Plantation. Naphthas usually cost about 21 cents per gallon and diesel fuel oil about 13 cents. They mix readily and are offered for bulk sale in most communities.

• **Simple Equipment Used** — A knapsack sprayer with a hand pump, a gravity-flow sprayer or a hose from a power sprayer can be used to treat the crowns of the grass as an operator walks along a crop row. A knapsack sprayer may be used if the infested acreage is small and the operator needs a sprayer with a hand pump for general spraying. Suitable knapsack sprayers, with the necessary adaptations for crown treatment of Johnson grass, usually cost from $25 to $30 each.

(Continued on Page 56)

GRAVITY-FLOW SPRAYERS are suitable for crown oiling small Johnson grass plots.

Photo: Courtesy Humble Oil & Refining Co.

APPLYING Varsol and Diesel fuel at Bluebonnet Farm.

Photo: Courtesy Texas Cottonseed Crushers Assn.

4 GOOD REASONS FOR USING

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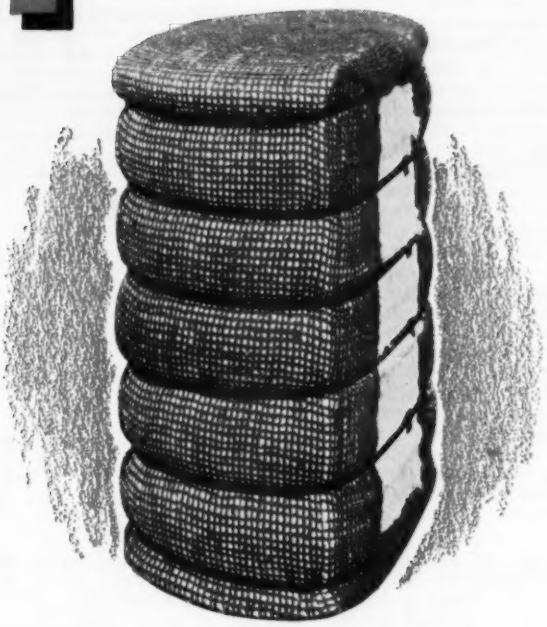

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• Tribute Paid Jepsen For Aiding Cotton

GEORGE JEPSEN, Union Cotton Oil Co., Prague, Okla., works actively in behalf of cotton and applies research findings to his own operations. His leadership was given recognition recently by the Prague newspaper, The News-Record, which said in part:

"George Jepsen is proving a valuable fact to the farmers of this section of Oklahoma. He is proving that cotton is still a good crop for our farms and that the idea it cannot be grown here at a profit any more is a mistaken idea. . . .

"By discarding cotton almost completely we have killed an industry in our county that furnished employment to a lot of people. In other years the hum and drone of cotton gins all over this country told the fact that men were on the job making a living. Now, the gins have been stilled in most towns. They are falling down; rusting out from idleness or have been sold as junk. It seemed a shame to let this industry completely perish from our midst. True, the boll weevil made inroads on our crops and lapped up most of the profit. But did we earnestly fight to save this industry for our country or did we merely turn into channels of lesser resistance? Conditions have changed on farms within the past decade and they have changed much more than we realize. More effective insecticides have been brought into use that might simplify warfare against the boll weevil. . . .

"Within the past 10 days I have talked with a number of farmers who have small cotton plantings on their farms and I have not found a single one who complained about boll weevil damage in his field. . . .

"I would like to hear the hum of cottons gins again in our county. I would like to see the cotton growing industry flourish again over our section. Farmers need the money it will bring to them and our dairymen and beef herd owners could certainly use the cake and hulls. Bringing this crop back to our farms would help everybody. A small cotton acreage, well fertilized and intensively cultivated, will pay a good profit. . . .

"Let's do some serious thinking about the future possibilities for a small cotton acreage on our farms and see what we can do about at least partially bringing back an industry that once paid the bills in this county . . . "

More Soybeans in Storage, Less Flaxseed, Peanuts

Record stocks of soybeans on July 1 were in contrast with stocks of flaxseed and peanuts that were smaller than those a year ago, USDA estimates show.

Soybean stocks in all storage positions were 66,800,000 bushels. On July 1 last year the figure was 35,600,000 bushels. The current total includes farm stocks of 33,100,000 bushels and 19,000,000 bushels at interior mills, elevators and warehouses. Terminal stocks are 2,400,000 bushels, CCC has 1,600,000 and processing plant stocks are placed at 10,800,000 bushels.

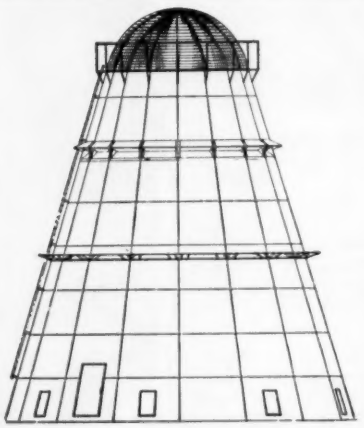
Flaxseed storage totaled 10,900,000 bushels in all positions. This was about one-fourth smaller than a year ago but 10 percent larger than in July of 1953.

Peanuts in off-farm positions are estimated by USDA to total 227 million pounds, 38 percent less than the figure a year earlier. Of the current supply, given in equivalent farmers' stock basis, eight percent was held as farmers' stock (uncleaned, unshelled), 84 percent as shelled edible peanuts and eight percent as roasting stock.

Spain Increases Acreage

Spain has jumped cotton acreage 60 percent in 1955 to a total of 435,000 acres, USDA reports.

Irrigated upland cotton plantings of 150,731 acres are 90 percent above last season, while dryland upland cotton acreage rose 73 percent to a total of 237,216 acres this season. Egyptian cotton, planted on 46,949 acres, shows a slight decrease from last season.



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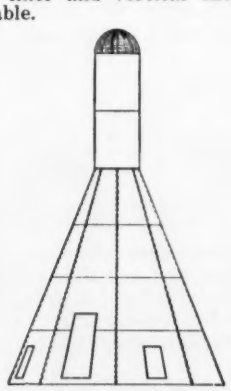

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• Mechanical Picking Shows Big Gains

NEW MEXICO harvested 48,698 acres of cotton mechanically in 1954, or nearly 24 percent of the 203,595 acres harvested in 12 cotton counties. In 1953, only 15 percent of the acreage was harvested by mechanical pickers or strippers, figures compiled by E. J. O'Neal, Extension cotton marketing specialist, show.

Acreage-wise, Dona Ana County ranked first in mechanically harvested cotton last year with 16,101 acres, or 31 percent of the 51,940 acre crop, gathered with mechanical pickers; Roosevelt County was second with 10,800 acres, or 60 percent of its 18,000 acre crop, harvested with mechanical strippers.

Following are the figures for the other 10 counties:

County	Total acres harvested	Area mechanically harvested
Chaves	42,450	6,368
De Baca	493	0
Eddy	31,600	1,580
Hidalgo	7,140	1,071
Lea	31,750	9,525
Luna	10,905	2,726
Otero	1,781	356
Quay	2,900	145
Sierra	2,548	26
Socorro	2,088	0

O'Neal's tabulation shows there are 248 mechanical pickers and 193 mechanical strippers in the 12 counties. Chaves County has 20 pickers, DeBaca, 1; Dona Ana, 85; Eddy, 12; Hidalgo, 12; Lea, 36; Luna, 80; Otero, 1; and Quay, 1. Six counties have mechanical strippers: Lea County, 75; Luna, 10; Quay, 4; Roosevelt, 100; Sierra, 1; and Socorro, 3.

The cotton marketing specialist said he expected some increase in mechanical harvesting of cotton in 1955, but the extent of gain will depend on the availability of hand labor and the cost of hand picking.

USDA Adds Two Million Bales to "Set-Aside"

USDA added two million bales to the cotton "set-aside" on Aug. 1, bringing the total to the minimum set-aside of three million bales required by the Agricultural Act of 1954.

Commodities set aside under the legislation may be disposed of in the following ways, subject to such terms and conditions as will provide adequate safeguards against interference with normal marketings:

(1) Donation, sale, or other disposition for disaster or other relief purposes outside the U.S.

(2) Sale or barter, including barter for strategic materials, to develop new or expanded markets for American farm products;

(3) Donation to school lunch programs;

(4) Transfer to the national stockpile;

(5) Donation, sale, or other disposition for research, experimental, or educational purposes;

(6) Donation, sale, or other disposition for disaster relief purposes in the U.S. or to meet any national emergency declared by the President;

(7) Sale for unrestricted use to meet a need for increased supplies, such sales to be made at not less than 105 percent of the parity price in the case of agricultural commodities and a price reflecting 105 percent of the parity price of the agricultural commodity in the case of products of agricultural commodities.

Castor Bean Outlook Good

Castor bean prospects were good at the beginning of August, according to the Baker Castor Oil Co. Outlook in the Midwest was the best since 1951, and fields in Arizona and California are reported in better condition than in other recent years.

New Castor Bean Promising

A dwarf castor bean which seems to offer much promise for mechanical harvesting is being studied by Texas Experiment Station.

A single plant was found at the Chillicothe Substation, and the seed now is being increased and tested by research workers. The strain seems to be highly resistant to disease.

■ ROBERT T. STEVENS, former Secretary of the Army, will rejoin J. P. Stevens & Co. Sept. 15 as president and a director. He resigned from the textile firm when he became Army Secretary in 1952.

Reduce Fires in COTTON GINS with the BEST in

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Czichos with Swift for 40 Years

E. F. CZICHOS, Memphis, in the center is shown receiving a 40-year anniversary pin recently from C. T. Prindeville, Chicago, Swift & Co. vice-president in charge of oil mill operations. On their right is S. E. Cramer, head of the oil mill department in Chicago. Czichos, Southern division manager for the oil mill department, joined Swift at Waco, Texas, in 1915, but was soon transferred to Houston. He served with the U.S. Army during World War I, returning to Swift as bookkeeper and cashier at Waco. He then was transferred to Memphis as cashier until his appointment as manager of the Little Rock oil mill in 1927. In 1942 he went to Dallas as Southwest district manager, where he directed oil mill business in that territory. He was promoted to his present post in 1952.

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Johnson Grass

(Continued from Page 52)

A suitable gravity-flow sprayer can be shop-built for about $10 or purchased for $15. Gravity-flow sprayers are used on the A. & M. Plantation where large crews are employed in controlling scattered infestations in cotton. A 100-gallon tractor-drawn nurse-tank for each crew of 15 gravity-flow sprayer operators is transported along the rows to keep a reserve supply of oil up with the crew. A 500-gallon supply of oil is kept on the turn-row from which to re-fill the nurse tank.

A gravity-flow sprayer suitable for treating Johnson grass consists of a three-gallon tank strapped on the operator's back, a short hose line with a quick-acting spring-tension shut-off valve and a hand sprayboom 30 inches long, with a nozzle that puts out a small fan of spray. A squirt of oil to each stem is enough to kill tender Johnson grass. The oil applied to the foliage or the soil around the grass is usually wasted. Gravity-flow sprayers are particularly useful for crown-oiling scattered stands of Johnson grass that occupy less than two feet of space in the crop row. They are not satisfactory for making foliage and soil treatments.

Crown, foliage or soil treatments can be made to Johnson grass spots with a hose line from a power spray. Crown-oiling with such equipment is effective but monopolizes considerable equipment when large crews are employed.

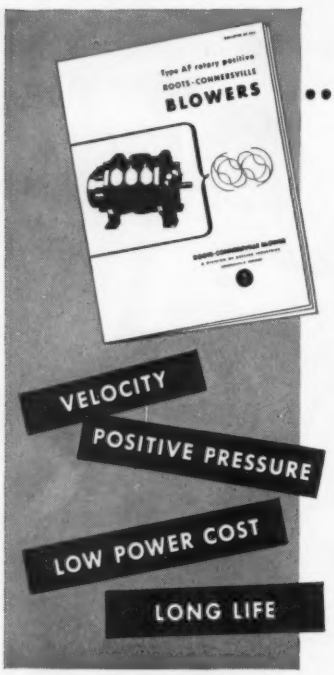
Oils used in controlling Johnson grass must be kept off the crop plants if stand losses are to be avoided. However, they leave no harmful residue in the soil. These oils are inflammable and operators should not smoke when using them. Ordinarily they evaporate fast enough to be harmless on exposed skin. They will blister tender skin on unexposed parts of the body. Extreme care should be taken to prevent the oils from getting in the eyes.

• **Other Material Suitable** — Water sprays containing such herbicides as sodium TCA or sodium Dalapon are preferred to oils in treating the soil or foliage of Johnson grass in fields where the spots are large. Hose lines from a tractor sprayer are very useful for treating such infestations. One or two treatments of the infested spots will usually reduce the stand of the grass to such an extent that crown-oiling of the surviving grass is the cheapest method of completing eradication.

Under humid conditions the fall application of 50 pounds of commercial sodium TCA in 100 gallons of water per acre can be expected to reduce stands of established Johnson grass 80 percent or more by spring without materially affecting cotton. The spray should be applied to short grass or bare soil in infested spots. It should not be applied (1) to poorly drained soils, (2) near valuable plants or in crops without expecting stand losses, (3) preceding any crop other than cotton or (4) during the summer. Sodium TCA acts primarily through the soil and is dependent on rain shortly after application to activate it. Also, subsequent rains are needed to wash it out of the soil. Ordinarily its effects in the soil last only about four months.

Application of 15 pounds of commercial sodium Dalapon in 75 gallons of water, plus 1½ pounds of Fab per acre, to tender foliage of short second growth Johnson grass in cotton followed by retreatment within 10 days can be expected to reduce the stand of the grass 80 percent or more if the grass is left undisturbed. The first application of the spray will kill the cotton in the treated spots. This chemical should not be used to control Johnson grass in other crops until further information is available. The residual effects of sodium Dalapon in the soil are similar to those of sodium TCA.

Recent results indicate that application of 15 pounds of sodium Dalapon and 30 pounds of sodium TCA in 75 gallons of water plus 1½ pounds of Fab per acre, to tender foliage of short second growth Johnson grass in cotton in the spring, can be expected to reduce stands of the grass 80 percent or more from a single treatment whether the grass is disturbed or not. This is a dual-purpose treatment. The effect of the Dalapon is through the foliage of the grass and is immediate. That of the TCA is through the soil and does not occur until after rain. The treatment must be made during periods when rain shortly after treatment is expected. The crop in the treated spot is killed but the effects of the chemicals in the soil are usually lost within a few months.



....New information on
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The smaller types of Roots-Connersville Rotary Positive Blowers are described in this new Bulletin No. AF-154.

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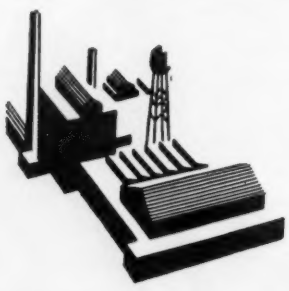

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Presenting

Jack Whetstone

Dallas, Texas

JACK WHETSTONE was employed by the Texas Cottonseed Crushers' Association in September, 1947, as assistant secretary. June, 1949, he was made secretary of the Association; and—on the retirement of Bennette Wallin on Dec. 1, 1954—became secretary-treasurer.

He was born in Abilene, Texas, and attended public schools in Texas and Oklahoma. He attended Hardin-Simmons University in Abilene, and took special business courses in Waco and Dallas.

Whetstone's father was a cotton merchant and Jack was just about raised in a cotton field. One of his projects as a vocational agriculture student in high school was 20 acres of cotton, which he handled after school with the help of two mules. Jack represented his school on judging teams at regional and state contests.

Before coming with the Texas Association, he was employed for seven years by the Abilene Reporter-News and served 30 months in the U.S. Army, with overseas duty in the Philippines and Korea during and following World War II.

Jack is married to the former Mary Elizabeth Younts of Temple, Texas. He is a member of the Dallas Agricultural Club, Dallas Rotary Club, Texas Agricultural Workers' Association, Texas Trade Association Executives, and American Trade Association Executives.

Creep Feeding Meal Pays

Creep feeding a mixture containing cottonseed meal paid off recently for W. R. Parsons, Crystal City, Texas. He sold 50 calves and figures that a feed cost of about $7.50 per head gave him a $20 per head profit. He fed each calf about 300 pounds of a mixture of one part cottonseed meal to five parts of ground sorghum grain.

Dates of Meeting Set

The Association of American Feed Control Officials has announced that its 1955 meeting will be held at the Shoreham Hotel in Washington on Oct. 12-13.

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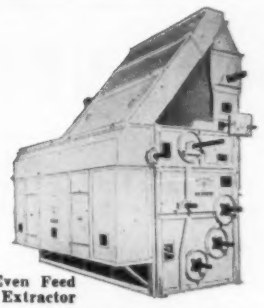

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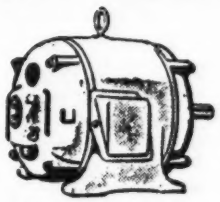

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Urea in Ruminant Rations

(Continued from Page 34)

contents had a strong ammonia odor. The amount of urea necessary to produce acute toxicity was in excess of 20 grams per 100 pounds of body weight.

• **Chronic Urea Toxicity** — Hart *el al.* (1939) reported severe kidney damage in animals which had received very high levels of urea. Following this report, many workers, attempting to produce chronic toxicity, have fed urea at levels higher than those recommended by nutritionists or allowed in practice by feed control officials. The following experiment by Whitehair *et al.* (1955) fairly well summarizes the experiences of several researchers in this field, therefore I shall report it in some detail.

Eight steers weighing approximately 470 pounds were used with two in each of lots 1 and 2 and and four in lot 3. The animals were individually fed the following rations during the last 61 days of the trial.

Lot 1—Four pounds prairie hay, three pounds of corn, six pounds of molasses, 0.2 pounds bone meal and salt free choice.

Lot 2—Same as lot 1 except molasses was decreased to 5.3 pounds and one pound of cottonseed meal was added.

Lot 3—Same as lot 1 except one pound of urea was added.

The experiment ran for 125 days. During the first part of the experiment, the animals were fed less concentrate and more hay, and, in case of the steers in lot 3, less urea. The urea level was gradually increased.

At the end of the experiment various tissues were taken for chemical analysis and pathological examination. The results are shown in Table 2.

Table 2. Results of Feeding Levels of Urea to Cattle. (Whitehair et al., 1955).

Item	Low Protein Basal	Lot 1	Lot 2 Basal + CSM	Lot 3 Basal + Urea
Liver wt. (gm.)	2981		3190	3069
Kidney wt. (gm.)	248		272	292
DAILY GAIN (lb.)	0.56		0.76	0.70
Liver urea—N*	47.3		56.6	53.4
Muscle urea—N*	25.1		30.3	23.6
Blood ammonia—N**	1.0		1.3	1.3
Blood urea—N**	2.3		7.7	16.6

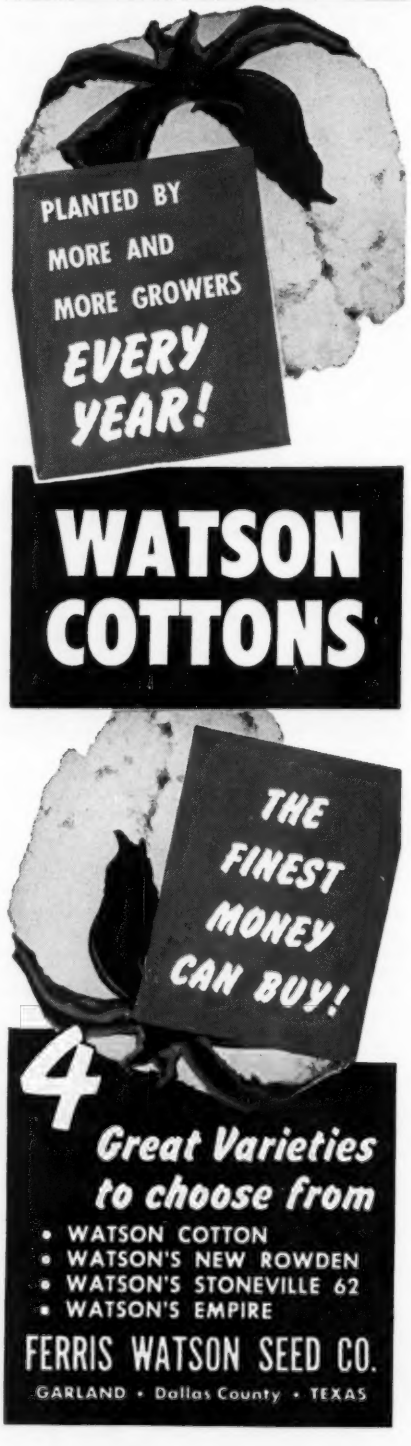
* Mg/100 gm. of tissue
** Mg/100 ml. of blood

This high level of urea caused no abnormal conditions except the urea-nitrogen level of the blood was higher in the urea-fed animals. It is interesting to note that high levels of natural protein also cause this value to go up. Neither gross nor microscopic alterations in the various tissues were found.

On the last day of the trial, one steer being fed the cottonseed meal ration accidentally consumed some of the urea and died of acute urea toxicity. It was estimated that this animal, weighing 565 pounds, consumed approximately 50-60 grams of urea. In this connection Gallup *et al.* (1953) reported that animals which had previously received urea would not, even after a 48 hour fast, consume enough urea-molasses mixture to cause acute toxicity. Animals which had not previously received urea readily consumed enough of the mixture to supply approximately 20 grams of urea per 100 pounds of body weight and acute toxicity symptoms appeared within 20 minutes. It is interesting to note that Osebald (1947) reported that some cattle would consume pure urea. In this case, it would only require small amounts to cause toxicity.

Although limited data are available, the results indicate that acute fatal disturbances may be encountered in the field. Undoubtedly the field disturbances are overemphasized at times and caution should be exercised in associating these disturbances with urea-containing rations until accurate diagnosis warrants such as association. Whitehair *et al.* (1955) has listed the following unusual conditions which may predispose cattle to disturbances due to consumption of urea-containing feeds:

1. Starved or fasted cattle. These an-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imals will consume large amounts of urea-containing feed in a very short period of time.

2. Animals previously fed low-quality roughages will readily consume urea-containing rations.

3. Rapid consumption of urea-containing feeds by aggressive animals.

4. Animals which have not been previously fed urea-containing feeds, will readily consume enough urea to cause acute toxicity. The farmer should be cautioned by the manufacturers in regard to this point.

5. Feeds containing urea in amounts larger than recommended by feed control officials.

6. Animals receiving urea with high roughage type rations utilize urea poorly and are more susceptible to toxicity.

Ammoniated Products

Millar (1944) using a technique similar to that employed by Hart *et al.* (1939) showed conclusively that the ammoniated products were able to supply nitrogen for the growth of ruminant animals. Further work at Iowa, Louisiana, Pennsylvania and Oklahoma has also confirmed this. Some *in vitro* work in which no ammonia was liberated during the incubation period has been interpreted to mean that none of the nitrogen in the ammoniated products is available for protein synthesis. This is not in agreement with *in vivo* work at the Oklahoma Station by Tillman *et al.* (1955). Our work indicates that cattle are able to digest approximately 60 percent of the nitrogen contained in these products. The so called "by-difference" method was used to obtain these figures. Prairie hay was the roughage.

The use of ammoniated molasses products also have complications, which in the final analysis, will have to be controlled by you. There are no reports of toxicity of animals when this product is fed in large quantities, but under certain conditions (I don't think anyone knows what these are) ammoniated molasses causes both sheep and cattle to become "stimulated."

We, at the Oklahoma Station, have had experience with both sheep and cattle. The stimulated animal behaves in a number of ways. The most common, and perhaps dangerous symptom in reference to personnel, concerns the apparent effect upon the nervous system. The animal becomes highly nervous and appears to lose ability to see. In this condition he will start to run at full speed and will run into or over anything that is in his path. After this is over, the animal may or may not appear belligerent for a variable length of time. This condition does not appear to affect the gain of the animals but does present a personnel hazard and endangers the life of the animal during the stimulation. There are indications that at levels of 10 percent of the concentrate portion of the ration, little stimulation occurs.

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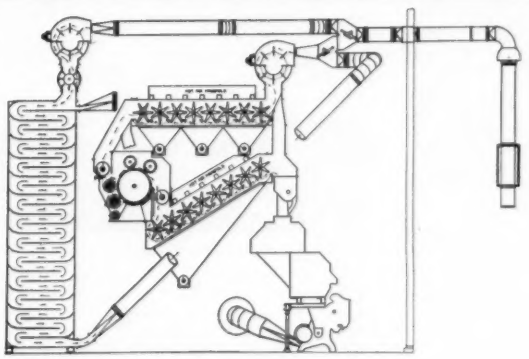
Publications, Patents List

A list of publications and patents on oilseeds and related subjects of the Northern Utilization Research Branch, Peoria, Ill., is now available and may be obtained by writing USDA Agricultural Research Service, Washington 25, D.C., or The Cotton Gin and Oil Mill Press, P.O. Box 7985, Dallas 26.



Note the hot air on the cleaners is blown through the cotton by a series of nozzles (similar to the air blast nozzles on a gin stand), forcing the dirt, leaf trash and stems through the screen. Cleaners made in any number of cylinders to meet local conditions.

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If your gin stands and feeder extractors are in good condition, all that is needed to bring your gin plant up to date is this modern STACY cotton conditioning system.

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Pasture Irrigation May Be Unprofitable in Alabama

Farm engineers have found that pasture irrigation in many instances doesn't pay on Alabama farms. Yet more than half of the irrigated acres in this state are in pasture.

According to Lawrence Ennis, Alabama Polytechnic Institute Extension agricultural engineer, high producing dairy cattle will in most cases pay well for irrigation of forage crops. It's beef cattle that often fail to do so.

Ennis pointed out that using the same system to water some high-paying crop like cotton or vegetables will go a long way toward making the equipment pay for itself. He also pointed out that irrigating two crops should mean that the system can be used more hours per day. However, this doesn't mean that either crop should get less water. As for other ways to profitably use an irrigation system on beef pastures, the expert mentioned the following:

1. Put cattle on irrigated pastures about mid-June and keep them there until November, grazing two to five cows per acre for two or three-week periods on only part of the pasture at a time.
2. Don't allow plants to be stunted by dry weather. Water them as soon as available moisture gets down near 50 percent of field capacity, wetting the soil to a depth of one and one-half to two feet each time water is applied.
3. Irrigate a grass-legume mixture for the highest yield in both quantity and quality.
4. Use plenty of fertilizer and split the applications, applying plant food at intervals of several months for best yields.
5. Use irrigation equipment to get new seedings up and ready for grazing early.

■ Brief . . . and to the Point

KEITH A. FITCH, executive director, Orkin Institute of Industrial Sanitation, discussed sanitation in oil mill operation in an address at the 1955 meeting of Mississippi Cottonseed Crushers' Association. In outlining some reasons why sanitation is important, he said:

> "Vegetable oil, even crude oil before it reaches a refinery, is, in accordance with legal definition, a food. For that reason, it must be produced and handled under reasonable standards of sanitation. In addition, the Food and Drug Administration has been quite active in the oil mill industry and from these activities there has emerged a fairly recognizable framework of sanitation requirements. Finally, it is quite important from the standpoint of accident prevention and fire prevention that a reasonable level of sanitation be maintained in the oil mill."

Movie on Farm Careers

A new color movie, designed to interest high school students in careers in agricultural science, has been produced by the University of California.

CALENDAR

Conventions - Meetings - Events

12	13	14	15	16	17	18

• Aug. 29-30-31—National Soybean Processors' Association and American Soybean Association combined conventions Netherlands Plaza Hotel, Cincinnati George M. Strayer, Strayer Farms, Hudson, Iowa, executive vice-president and secretary-treasurer, American Association; R. G. Houghtlin, Board of Trade Building, Chicago, president, National Processors.

• Sept. 7-8-9—Beltwide Cotton Mechanization Conference. Texas A. & M. College, College Station, Texas, and Blackland Experiment Station, Temple, Texas. For information write National Cotton Council, P. O. Box 9905, Memphis 12.

• Dec. 15-16—Cotton Production Conference sponsored by National Cotton Council. Hotel Peabody, Memphis. For information, write National Cotton Council, P. O. Box 9905, Memphis 12.

1956

• Jan. 30-31—National Cotton Council annual meeting. Biloxi, Miss. For information, write National Cotton Council, P. O. Box 9905, Memphis 12.

• Feb. 5-7—Texas Cooperative Ginners' Association, Texas Federation of Cooperatives and Houston Bank for Cooperatives joint annual convention, Austin, Texas. For information, write Bruno E. Schroeder, 307 Nash Building, Austin, executive secretary.

• Feb. 14-15—Southeastern Gin Suppliers' Exhibit. Biltmore Hotel, Atlanta. Sponsored by Alabama-Florida Cotton Ginners' Association, Carolinas Cotton Ginners' Association and Georgia Cotton Ginners' Association. For exhibit information, write Tom Murray, Room 714, Henry Grady Building, 26 Cain Street, NW, Atlanta. Concurrent with annual conventions of Alabama-Florida, Carolinas and Georgia ginners' associations.

• Feb. 14-15—Alabama-Florida Cotton Ginners' Association convention. Biltmore Hotel, Atlanta. For information, write Tom Murray, executive vice-president, Room 714, Henry Grady Building, 26 Cain Street, NW, Atlanta. Concurrent with Southeastern Gin Suppliers' Exhibit.

• Feb. 14-15—Carolinas Ginners' Association annual convention. Biltmore Hotel, Atlanta. For information, write Clifford H. Hardy, 400 Broad Street, Bennettsville, S.C., executive secretary-treasurer. Concurrent with Southeastern Gin Suppliers' Exhibit.

• Feb. 14-15—Georgia Cotton Ginners' Association annual convention. Biltmore Hotel, Atlanta. For information, write Tom Murray, executive vice-president, Room 714, Henry Grady Building, 26 Cain Street, NW, Atlanta. Concurrent with Southeastern Gin Suppliers' Exhibit.

• March 12-13—Cottonseed Processing Research Clinic. Southern Regional Research Laboratory, New Orleans. Sponsored by Valley Oilseed Processors' Association and USDA. C. E. Garner, 1024 Exchange Building, Memphis, Association secretary.

• March 12-14—Midsouth Gin Supply Exhibit. Midsouth Fairgrounds, Memphis. For information, write W. Kemper Bruton, P. O. Box 345, Blytheville, Ark. Arkansas-Missouri, Louisiana-Mississippi and Tennessee ginners' associations sponsor the exhibit and will hold their annual convention concurrently with it.

• March 12-14—Arkansas- Missouri Cotton Ginners' Association annual convention. Memphis. W. Kemper Bruton, P. O. Box 345, Blytheville, Ark., executive vice-president. Concurrent with Midsouth Gin Supply Exhibit.

• March 12-14 — Louisiana-Mississippi Cotton Ginners' Association annual convention. Memphis. Gordon W. Marks, P. O. Box 1757, Jackson, Miss., secretary. Concurrent with Midsouth Gin Supply Exhibit.

• March 12-14—Tennessee Cotton Ginners' Association annual convention. Memphis. W. T. Pigott, Milan, Tenn., secretary-treasurer. Concurrent with Midsouth Gin Supply Exhibit.

• March 18-21—National Peanut Council annual convention. Jung Hotel, New Orleans. For information, write National Peanut Council, DuPont Circle Building, Washington, D.C.

• March 25 or 26—National Cotton Ginners' Association annual meeting. Dallas, Texas. Clifford H. Hardy, Bennettsville, S.C., executive secretary. Will be held in conjunction with Texas Cotton Ginners' Association annual convention.

• March 26-27-28—Texas Cotton Ginners' Association annual convention. State Fair Grounds, Dallas, Texas. Ed H. Bush, 3724 Race Street, Dallas, executive vice-president. For exhibit space, write R. Haughton, president, Gin Machinery & Supply Association, Inc., 3116 Commerce Street (P. O. Box 7985), Dallas.

• April 9-10—Valley Oilseed Processors' Association annual meeting. Buena Vista Hotel, Biloxi, Miss. C. E. Garner, 1024 Exchange Building, Memphis, secretary.

• April 22-25—American Oil Chemists' Society spring meeting. Shamrock Hotel, Houston. For information, write Society headquarters, 35 East Wacker Drive, Chicago.

• May 21-22—National Cottonseed Products Association convention. Statler-Hilton Hotel, Dallas. John F. Moloney, 19 S. Cleveland Street, Memphis 4, secretary-treasurer.

• June 6-8—Tristates Oil Mill Superintendents' Association annual convention. Biloxi, Miss. For information, write Roy Castillow, 20 Lenon Drive, Little Rock, Ark., secretary-treasurer.

• June 20-22 — Mississippi Cottonseed Crushers' Association annual convention. Buena Vista Hotel, Biloxi, Miss. Gordon W. Marks, P. O. Box 1757, Jackson, Miss., secretary.

• Sept. 23-26—American Oil Chemists' Society fall meeting. Sherman Hotel, Chicago. For information, write Society headquarters, 35 East Wacker Drive, Chicago.

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CHEMICALS are being used more and more to add attractive color, taste and smell to livestock feeds, chemists report.

Most livestock and poultry will eat more of feeds that are colored green, nutritional authorities say; but orange color and a nutlike flavor seem to have a special attraction for sheep and rabbits.

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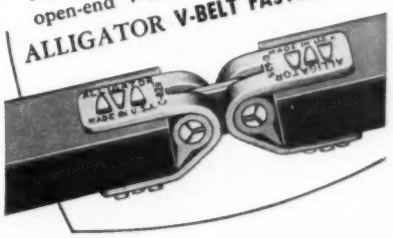

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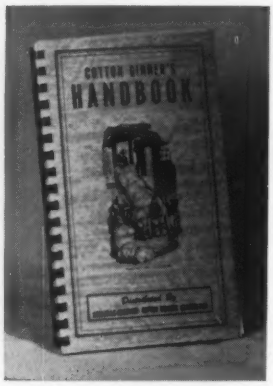

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laugh it off

Once upon a time a beautiful girl was walking through the woods when she came upon a poor little frog who spoke as follows:

"Lady, once upon a time I was a handsome prince but a big black witch turned me into a frog."

"Oh, that's too bad," said the beautiful girl. "Is there anything I can do to help you?"

"Yes, indeed," replied the frog. "If you will take me home with you and put me on your pillow I will be saved."

So the beautiful girl took the poor little frog home with her, and the next morning, when she awoke, there beside her was a handsome young prince. And do you know, to this day her mother doesn't believe that story.

• • •

The following sign is posted in a favorite tourist hotel in Mexico:

"Ladies are not permitted to visit the rooms of single gentlemen, and vice versa. Guests will convene in the main lobby for this purpose."

• • •

Little boy at stationery counter: Please, sir, have you got any blank report cards?

• • •

The applicant for the sales job stood before the sales manager.

"Married?" asked the sales manager.

"No, I'm not," he said, "but I can take orders, if that's what you mean."

• • •

The ladies met on the train. "I'm from Boston," said one. "There breeding is everything."

Well, I'm from Dallas," the other said. "We like it there, too, but it's not everything."

• • •

A youthful figure is what you get when you ask a woman her age.

• • •

A young bride of three months complained to her relatives about her husband's continued drinking habits.

"If you knew he drank, why did you marry him?" she was asked.

"I didn't know he drank," the girl replied, "until one night he came home sober."

• • •

Nothing annoys the average child like a disobedient parent.

• • •

A newly married couple boarded the Golden State Limited for their honeymoon. They were in their berths and the bride about every two minutes would exclaim:

"Johnny, I just can't convince myself that we are married."

This went on and on for half an hour. Finally a voice from the other end of the car shouted:

"Johnny, will you convince her so that we all may go to sleep?"

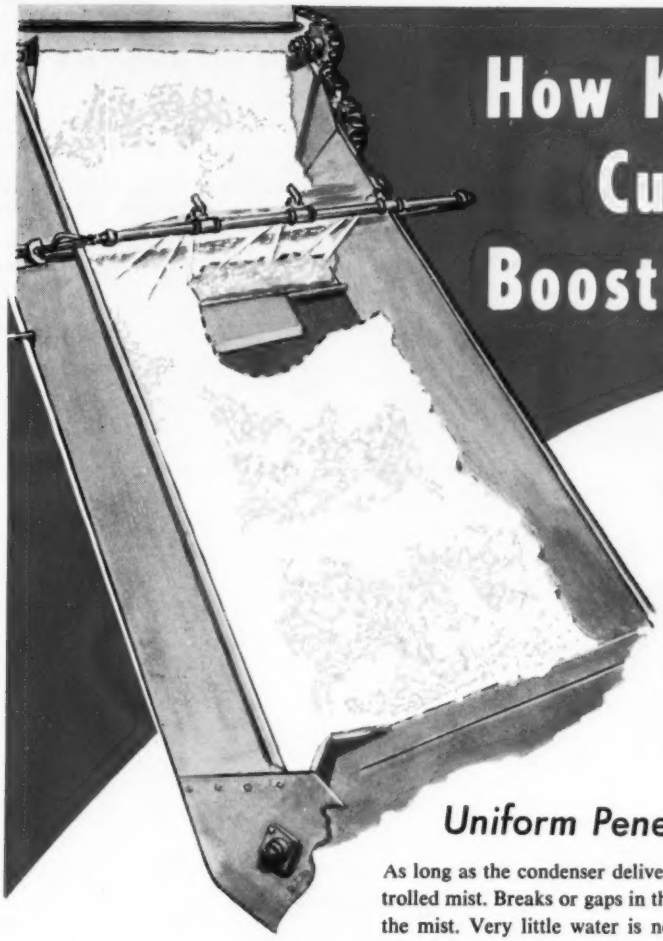
• • •

Cowboy: What kind of a saddle do you want—one with a horn or without?

Dude: Without, I guess. There doesn't seem to be much traffic on these prairies.

• • •

Bootblack: Shine your shoes, mister?
Businessman: No.
Bootblack: Shine 'em so you can see your face?
Businessman: No.
Bootblack: Don't blame you.



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Experienced ginners everywhere know the advantages of moisture in baling cotton. It makes pressing simpler. It enables the press crew to keep up with the production of the largest gins. Losses from broken ties are practically eliminated and press repairs are at a minimum. Adding controlled moisture is no longer a problem. The Kemgas Statifier sprays an automotically controlled mist of "wet water" . . . 8 pounds or less to the 500-pound bale. The instant the batt of cotton comes from the condenser it tilts a metal control flap mounted across the lint slide closing a mercury switch that starts and controls the gentle mist spray over the batt.

Uniform Penetration with MOYST Agent

As long as the condenser delivers cotton to the slide, the Statifier responds with its controlled mist. Breaks or gaps in the batt releases the control flap which automatically stops the mist. Very little water is needed for a 500-pound bale because a special MOYST wetting agent is used in the Statifier. This permits the slight moisture used to uniformly penetrate all of the cotton in the bale. Only one quart of this wetting agent is used in 100 gallons of water, costing between 1 and 2 cents per bale.

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The mist control systems of the new STATIFIER series are now operated by a 24-volt unit. It is a simple and quick installation and complies with National Electrical Code requirements. The 100-gallon tank in which the MOYST wetting agent is added to the water, is of 18 gauge galvanized steel. The ¼-horsepower motor is totally enclosed. The pressure pump is of bronze and stainless steel, and there is now a quick opening cover on the large-capacity strainer to simplify cleaning the screen.

MODEL CL For use only at lint slide before cotton is pressed. Has automatic electric control for mist unit.

MODEL CLL For use at lint slides of double battery gin. Has one motor, pump and tank, but two mist units and controls.

MODEL CD For use only at point where seed cotton drops into conveyor distributor before it is ginned. Has automatic electric control for mist unit.

MODEL CLD For use at both lint slide and distributor. Mist units have separate automatic controls.

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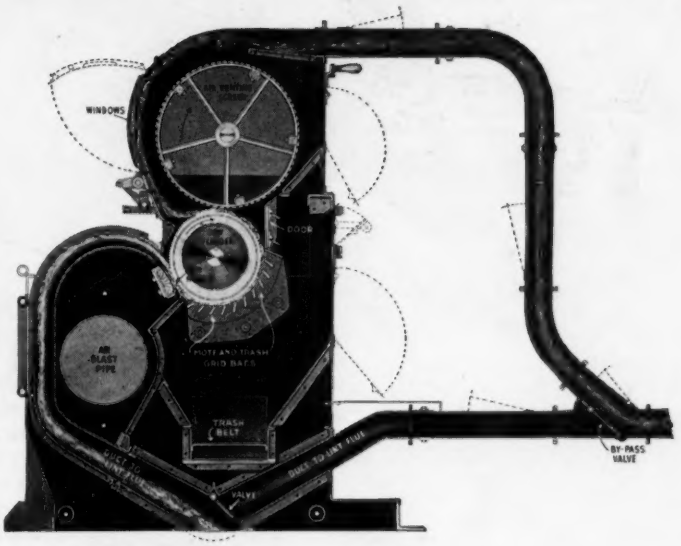

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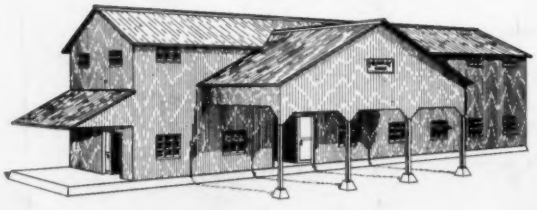

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Buildings designed specifically for Cotton Gin Plants. Strong enough to pick up and support Machinery. Designed and fabricated in same plant where Gin Machinery is produced.

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